

GenCore version 4.5
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OM nucleic - nucleic search, using sw model

Run on: June 30, 2002, 13:46:02 ; Search time 2325.7 Seconds

(without alignments)
1393.051 Million cell updates/sec

Title: US-09-303-518D-463

Perfect score: 1887
Sequence: 1 ttgggcattccgcgaanaat.....catatccattatgaatag 1887Scoring table: IDENTITY NUC
Gapop 10.0, Gapext 1.0

Searched: 1736436 seqs, 858457221 residues

Total number of hits satisfying chosen parameters: 3472872

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 100 summaries

Database :

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21: /SIDSI/gcgdata/geneseq/geneseqn-emb1/NA2000.DAT.*
22: /SIDSI/gcgdata/geneseq/geneseqn-emb1/NA2001A.DAT.*
23: /SIDSI/gcgdata/geneseq/geneseqn-emb1/NA2001B.DAT.*
24: /SIDSI/gcgdata/geneseq/geneseqn-emb1/NA2002.DAT.*

Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

Result	No.	Score	Match	Query	Length	DB	ID	Description
1	1884.4	99.9	1887	20	AA212173			Neisseria gonorrhoe
2	1427.8	75.7	1827	21	AAF21588			N. meningitidis pa
3	1427.8	75.7	1827	21	AAAF1303			N. meningitidis pa
4	1427.8	75.7	349980	21	AAF21608			Neisseria meningit
5	1231.2	65.2	1671	20	AA212174			Neisseria meningit
6	1198.8	63.5	2304	22	AA543903			Neisseria meningit
7	1198.8	63.5	2304	22	AAAD17056			N. meningitidis st
8	1196	63.4	2028	22	AA543881			Neisseria meningit
9	1196	63.4	2028	22	AAAD17046			N. meningitidis st

10	1196	63.4	4425	22	AA543874			Neisseria meningit
11	1196	63.4	4425	22	AAAD17039			N. meningitidis st
12	1194	63.3	2019	22	AA543894			Neisseria meningit
13	1194	63.3	2019	22	AAAD17047			N. meningitidis st
14	1194	63.3	2256	22	AA543896			Neisseria meningit
15	1194	63.3	2256	22	AA543900			Neisseria meningit
16	1194	63.3	2256	22	AAAD17049			N. meningitidis st
17	1194	63.3	2256	22	AAAD17053			N. meningitidis st
18	1194	63.3	2421	22	AA543895			Neisseria meningit
19	1194	63.3	2421	22	AA543897			Neisseria meningit
20	1194	63.3	2421	22	AAAD17048			N. meningitidis st
21	1194	63.3	2421	22	AAAD17050			N. meningitidis st
22	754	40.0	837096	21	AAAB1489			N. meningitidis pa
23	642.8	34.1	683	20	AA212172			Neisseria meningit
24	641.8	34.0	684	21	AAAB1504			N. meningitidis pa
25	396	21.0	396	21	AA54162			Neisseria gonorrhoe
26	385.4	20.4	492	21	AA54163			Neisseria meningit
27	384.8	20.4	396	21	AA54164			Neisseria meningit
28	333.4	17.7	380	21	AAAB1377			N. meningitidis pa
29	332.4	17.1	381	20	AA212171			Neisseria meningit
30	290.4	15.4	1731	21	AA544360			Neisseria gonorrhoe
31	283.4	15.0	1404	21	AA544261			Neisseria meningit
32	283.4	15.0	25509	21	AAAB1467			N. meningitidis pa
33	283.4	15.0	349980	21	AA21607			Neisseria meningit
34	269.6	14.3	1497	21	AA54262			Neisseria meningit
35	119.8	6.3	1497	20	AA212046			Neisseria gonorrhoe
36	119.8	6.3	1497	21	AA543469			Neisseria adhesion
37	119.8	6.3	3287	18	AA770386			Neisseria meningit
38	108.2	5.7	1135	20	AA543471			Neisseria meningit
39	105.2	5.6	1449	20	AA212045			Neisseria meningit
40	105	5.6	1452	20	AA212044			Neisseria meningit
41	105	5.6	1452	21	AA543470			Neisseria meningit
42	105	5.6	92934	21	AAAB1473			N. meningitidis pa
43	105	5.6	17235	21	AA21613			Neisseria meningit
44	96	5.1	375	20	AA212043			Neisseria meningit
45	96	5.1	375	21	AAAB1340			N. meningitidis pa
46	84	4.5	732	21	AAAB1804			N. meningitidis pa
47	45.2	2.4	390	13	AAQ21833			Randomising oligon
48	45.2	2.4	390	14	AAQ36859			PCR primer for 5'
49	45.2	2.4	390	22	AA776810			Sequence containin
50	41.8	2.2	810	12	AAQ13853			N-acetyl mannosam
51	40.6	2.2	349980	21	AA21611			Neisseria meningit
52	40.2	2.1	695	22	AA68020			Corynebacterium gl
53	40.2	2.1	4560	22	AA685909			C glutamicum codin
54	40.2	2.1	349980	22	AA68526			C glutamicum codin
55	40.2	2.1	349980	22	AA68527			C glutamicum codin
56	40.2	2.1	349980	22	AA68530			C glutamicum codin
57	39.2	2.1	15768	24	AA68531			Human immune syste
58	39.2	2.1	114955	20	AA543491			Human adenovirus A1
59	38.8	2.1	4819	24	AA520020			Genomic DNA encodi
60	38.6	2.0	4403765	22	AA199683			Mycobacterium tube
61	38.2	2.0	400	19	AA64545			M. tuberculosis Im
62	38.2	2.0	400	19	AA64436			Mycobacterium tube
63	38.2	2.0	400	19	AA64436			M. tuberculosis Im
64	38.2	2.0	400	20	AA219346			M. tuberculosis Im
65	38.2	2.0	1431	20	AA679134			C glutamicum codin
66	38.2	2.0	1554	22	AA679130			Corynebacterium gl
67	38.2	2.0	1930	22	AA672328			S. epidermidis ope
68	38.2	2.0	3073	22	AAH53021			S. epidermidis ope
69	38.2	2.0	6741	21	AAH54182			Gene encoding a su
70	38.2	2.0	349980	22	AA68533			C glutamicum codin
71	37.6	2.0	574	22	ABA63420			Human foetal liver
72	37.6	2.0	574	22	ABA75827			Human foetal liver
73	37.6	2.0	574	22	ABA30621			Probe #9087 for ge
74	37.6	2.0	574	22	ABA40396			Probe #18862 for g
75	37.6	2.0	574	22	AAK11953			Human brain expres
76	37.6	2.0	574	22	AAK24508			Human brain expres
77	37.6	2.0	574	22	AAK37658			Human bone marrow
78	37.6	2.0	574	22	AAK50497			Human bone marrow
79	37.6	2.0	574	22	AAI18415			Probe #8348 for ge
80	37.6	2.0	574	22	AAI27510			Probe #17443 for g
81	37.6	2.0	574	22	AAI43531			Probe #12217 used
82	37.6	2.0	574	22	AAI56482			Probe #25168 used

83	37.6	2.0	13144	12	AAO13288	P. denitrificans ge
84	37.2	2.0	3024	22	AAK90501	Human digestive sy
85	37.2	2.0	10732	21	AAI10594	Gene encoding a su
86	37.2	2.0	882	19	AAV64512	M. tuberculosis im
87	37	2.0	882	19	AAV44403	Mycobacterium tube
88	37	2.0	882	20	AAZ19313	M. tuberculosis an
89	37	2.0	882	20	AAZ19101	Pseudomonas aerugi
90	37	2.0	1245	23	AAS54156	Sequence encoding
91	37	2.0	12588	15	AAO63293	Mycobacterium tube
92	37	2.0	4403765	22	AAI99683	Consensus sequence
93	37	2.0	4411529	22	AAI99682	Human immune syste
94	36.8	2.0	1161	15	AAO63295	Human immune syste
95	36.8	2.0	6702	24	ABL33461	Human immune syste
96	36.8	2.0	6849	22	AAK72645	Human immune syste
97	36.8	2.0	15896	21	AAK81517	Neisseria meningit
98	36.8	2.0	349980	21	AAF21608	Neisseria meningit
99	36.8	2.0	349980	21	AAF21609	Neisseria meningit
100	36.8	2.0	1437668	21	AAAB1490	N. meningitidis B

ALIGNMENTS

RESULT 1

AAZ12173 standard; DNA; 1887 BP.

ID AAZ12173 standard; DNA; 1887 BP.

AC AAZ12173;

DT 08-OCT-1999 (first entry)

DE Neisseria gonorrhoeae complete ORF46 sequence.

KW Neisseria meningitidis; Neisseria gonorrhoeae; antigen; vaccine;

KM treatment; Neisseria infection; meningitis; septicemia; gonorrhea; ss.

OS Neisseria gonorrhoeae.

PN WO924578-A2.

PD 20-MAY-1999.

PF 09-OCT-1998; 98WO-IB01665.

PR 01-SEP-1998; 98GB-0019016.

PR 06-NOV-1997; 97GB-0023516.

PR 14-NOV-1997; 97GB-0024190.

PR 18-NOV-1997; 97GB-0024386.

PR 27-NOV-1997; 97GB-0025158.

PR 10-DEC-1997; 97GB-0026147.

PR 14-JAN-1998; 98GB-0000759.

PA (CHIR-) CHIRON SPA.

PI Grandi G, Mastignani V, Piza M, Rappuoli R, Scarlato V;

DR WPI: 1999-327407/27.

DR P-PSDB; AAY38730.

XX Proteins from Neisseria meningitidis and N. gonorrhoeae useful for

XX diagnosis, treatment and prevention of infection

XX Claim 9; Page 274-275; 524pp; English.

XX Nucleotide sequences AAZ11972-712358 represent open reading frames

XX (ORFs) of Neisseria meningitidis and N. gonorrhoeae which encode

XX antigenic proteins (see AAY38499-Y38944). The antigenic proteins, their

XX fragments, their nucleic acids and antibodies are used for diagnosis,

XX prevention (as vaccines) or treatment of Neisseria infections,

XX such as meningitis, septicemia and gonorrhea. Both organisms

XX are closely related. Fragments of the nucleic acids are useful

XX as hybridisation probes and antisense reagents.

SQ Sequence 1887 BP; 555 A; 468 C; 493 G; 370 T; 1 other;

Query Match 99.98; Score 1884.4; DB 20; Length 1887;

Best Local Similarity 99.98; Pred. No. 0;

Matches 1886; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

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DB	1	ttggcattccgcaaatatccctattctgtcctactgtgagtgctgcgcgatg	60
QY	61	catgacacgctcgaatattggaacagatcccttaccggaagttctcgacgctcag	120
DB	61	catgacacgctcgaatattggaacagatcccttaccggaagttctcgacgctcag	120
QY	121	catttcgaccccgaggaataaccattcttgagcgaggggggaggttcgacacgc	180
DB	121	catttcgaccccgaggaataaccattcttgagcgaggggggaggttcgacacgc	180
QY	181	aacggccatcgcgatttgggaacatacaaaagccatcagttggccacatgatcaaa	240
DB	181	aacggccatcgcgatttgggaacatacaaaagccatcagttggccacatgatcaaa	240
QY	241	caggcgccgttgaagaataatcgcgtacattgtccgctttccgacacgggacaaa	300
DB	241	caggcgccgttgaagaataatcgcgtacattgtccgctttccgacacgggacaaa	300
QY	301	ttccattcgccttcgcaaacacatgccttcacattcgcattctgacgaagcgtaagcc	360
DB	301	ttccattcgccttcgcaaacacatgccttcacattcgcattctgacgaagcgtaagcc	360
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QY	421	ggctatgacgggccaagggcgcgctatcccgctcccaaggcggaaggtatataac	480
DB	421	ggctatgacgggccaagggcgcgctatcccgctcccaaggcggaaggtatataac	480
QY	481	agctacgacataaagggtgtgcccataatctccgctcaacatcgacacgcaacggcagc	540
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QY	601	ggcgacggaatcacaacggcgccacccgatacagcccgagctggacacatcggggaatgccc	660
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DB	961	gggattgagctgtccggggaataacaggttggggcgacacacacatcctgtcaag	1020

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QY 1081 gccgatggcgatcagcgacaataccgctcccttaccattcccgaaataatccgttcaac 1140
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Db 1081 gccgatggcgatcagcgacaataccgctcccttaccattcccgaaataatccgttcaac 1140
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Db 1201 aaaaatgtaacctggcacaacacgcgccacggaagacagcgctacgttcaagctaa 1260
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Db 1321 tggggggggcggtatcctagcctgctgttgaatgcgaaacggagatggaggtt 1380
QY 1381 gatagaagaacttaataatctgaacactcgtgagcaggttgagaaataatctcaggaagc 1440
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Db 1381 gatagaagaacttaataatctgaacactcgtgagcaggttgagaaataatctcaggaagc 1440
QY 1441 agaaagaagagtcagatcagtttaagcccatcgcgaacgagaaatgggaaataaa 1500
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Db 1441 agaaagaagagtcagatcagtttaagcccatcgcgaacgagaaatgggaaataaa 1500
QY 1501 acggggttgaatttataatcttataagtggtgatataataagaagacagctaa 1560
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Db 1501 acggggttgaatttataatcttataagtggtgatataataagaagacagctaa 1560
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Db 1561 gggggcagatcagctaacccgtgtgtatgacgggtgatatacaaaacccgcgacctgat 1620
QY 1621 aaacatggggttatacaagcagtcgaaatataaaacccgtatggaggtg 1680
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Db 1621 aaacatggggttatacaagcagtcgaaatataaaacccgtatggaggtg 1680
QY 1681 aaaaacgaaaaaagggtgggaaagtgtgacacacacacatgttcccaaaagtggat 1740
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Db 1681 aaaaacgaaaaaagggtgggaaagtgtgacacacacacatgttcccaaaagtggat 1740
QY 1741 gaggcagagattaggcctaaattacttgcgttgggaaagtgaataatgtttaagt 1800
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Db 1741 gaggcagagattaggcctaaattacttgcgttgggaaagtgaataatgtttaagt 1800
QY 1801 aataaattggcaggtgatacaatcgggtattaaataagaagatttaccgaacta 1860
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Db 1801 aataaattggcaggtgatacaatcgggtattaaataagaagatttaccgaacta 1860
QY 1861 agacagcattatccattatgaatg 1887
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Db 1861 agacagcattatccattatgaatg 1887

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RESULT 2

ID AAF21588 standard; DNA; 1827 BP.

AC AAF21588;

DT 13-MAR-2001 (first entry)

XX N. meningitidis partial DNA sequence orf46-2.seq SEQ ID NO:88.

XX

```

KW Neisseria meningitidis; Neisseria gonorrhoeae; immunogenic; vaccine;
KW diagnosis; antigen; detection; infection; gene therapy; antibacterial;
KW ds.
OS Neisseria meningitidis.
FN W0200066791-A1.
PD 09-NOV-2000.
PE 08-MAR-2000; 2000MO-US05928.
PR 30-APR-1999; 99US-0132068.
PR 08-OCT-1999; 99MO-US23573.
PR 28-FEB-2000; 2000GB-0004695.
XX
XX (CHIR ) CHIRON CORP.
XX (GENO-) INST GENOMIC RES.
XX
XX Plaza M, Hickey E, Peterson J, Tettelin H, Venter JC, Maignani V,
PI Galeotti C, Mora M, Ratti G, Scarcelll M, Scarlato V, Rappuoli R;
PI Frazer CM, Grandi G;
XX
XX WPI: 2000-647603/62.
XX P-PSDB: AAB58593.
XX
XX Neisseria meningitidis B full length genome sequence and open reading
XX frames are used to detect, treat and prevent Neisserial infections -
XX
XX Example 1; Page 114-115; 692pp; English.
XX
XX The present invention describes the full length genome of
XX Neisseria meningitidis B (NMB). The sequences in AAF21544 and AAF21607
XX to AAF21613 represent fragments of the NMB genomic sequence, as the
XX sequence was too long to go in a record on its own it was split into 8
XX sequences which overlap each other at the beginning and end of each
XX sequence by 49980 bp (i.e. the last 49980 bp of AAF21544 is repeated at
XX the beginning of AAF21607, the last 49980 bp of AAF21607 are repeated at
XX the beginning of AAF21608, and so on). AAF21545 to AAF21588 encode the
XX Neisseria proteins given in AAB58550 to AAB58593, and AAF21589 to
XX AAF21606 represent PCR primers which are used in the exemplification of
XX the present invention. The NMB genome and fragments from it have
XX antibacterial activity, and can be used in vaccines and gene therapy.
XX Neisseria nucleic acids, proteins and/or antibodies which binds to the
XX proteins can be used in compositions for treating or preventing infection
XX due to Neisserial bacteria or as a diagnostic reagent for detecting the
XX presence of Neisserial bacteria or of antibodies raised to Neisserial
XX bacteria. Computers, computer memory, computer storage medium or computer
XX databases can be used in a search to identify open reading frames (ORFs)
XX or coding sequences within the NMB genome. The DNA sequences provide
XX further opportunities to find antigenic or immunogenic proteins which are
XX more effective in vaccines than the outer membrane proteins currently
XX used.
XX
XX Sequence 1827 BP; 539 A; 446 C; 454 G; 387 T; 1 other;
XX
XX
XX Query Match 75.7%; Score 1427.8; DB 21; Length 1827;
XX Best Local Similarity 95.6%; Pred. No. 0;
XX Matches 1468; Conservative 0; Mismatches 68; Indels 0; Gaps 0;

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Db 1 ttggcattccgcgaataatcccttattctgtcctactcagcagctgcctcagatg 60
QY 61 catgacacgcctcagatttggcaaacgatacccttaccgcgaggttccgacgtcag 120
    |||||
Db 61 catgacacgcctcagatttggcaaacgatacccttaccgcgaggttccgacgtcag 120
QY 121 cattcgaaccccgaggaataataccattatcggcagcaggggagcttcgcagcgc 180
    |||||
Db 121 cattcgaaccccgaggaataataccattatcggcagcaggggagcttcgcagcgc 180

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OY	181	aagcgcatcggattgaggaaaatacaaaagccatcgaattggcgccattgatttcaa	240
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OY	241	caggcgcgcttggaaagaaatatacgtgtacattgttcgcgtttccgatcagcgaca	300
Db	241		
OY	301	ttccattcgcccttcgacaacacatgtctcaattccgatctcgaagacggtatccc	360
Db	301		
OY	361	gtccattcccccttcgacaacacatgtctcaattccgatctcgaatgaagcgtatgcc	420
Db	361		
OY	421	ggtatgacgggccaacagggcgcggtacatcccgctcccaaaaggcgcgagggataaac	480
Db	421		
OY	481	agctacgacataaaaggcgtttgcccaataatccgcctcaacctgaacgacaacgcgacg	540
Db	481		
OY	541	acccgacaacggcttgcgcgacgctttcccaaatgcgcggcgctatgtctggcgcaagga	600
Db	541		
OY	601	ggcgacgggattcaaaacgcgccacccgataacgcccggagcttgaaacgaaatgc	660
Db	601		
OY	661	ggcgaaagccttcaacggcgcatctgcaagatatcgttaaaacatacgcgcgcgagagaa	720
Db	661		
OY	721	attctcgcgcaagcgatgtcgcgtgcgaaggtatgaagcgaaagctcacaactgtctcgt	780
Db	721		
OY	781	caagcgcttggctgtctcttcacccgaaaacaaagatgvcgcgcatcaacgatttgcagat	840
Db	781		
OY	841	atggcgcaactccaagaagctatgtccgcgacgacatcccgcgattggcgagttccaaaaccc	900
Db	841		
OY	901	aatgcgcacaagaacatagaaagccgtacgaacgaatattttatggcgacatccccaacaa	960
Db	901		
OY	961	ggagattgagatgtctccgggggaaaaatacgcgcttggcgcgcatcacgacatccttcaag	1020
Db	961		
OY	1021	cggtcgcagatgggcgcgcatctgcgaatggcgaagggaatccgcgcgtcaagcgacaattt	1080
Db	1021		
OY	1081	ggcgatgcgcatatagcgcaaatatcccgctcccttaacatctcccgaaatatccggtccaac	1140
Db	1081		
OY	1141	ttggagcagcggtttagcgcaaaagaacaatacctctcaacgcgttcacgcgcgttgaacggc	1200
Db	1141		
OY	1201	aaaaatgtcaaacatbggagacccaacgcacccgaagacagcggtatccgttttgaacgttaa	1260
Db	1201		
OY	1261	gggtttccgaattttgaagaagcagctgaaatatgatacgaagctcgcgatatccagaatla	1320

Db	1261	gggttcgcgaatttttggaaagccgfgaaatatgatacgaagcttcgatattccaagaatta	13220
OY	1321	tcggggggcgggtataccctaaagcgaacgtgtgttgatgcgaaacgagatggaggtt	1360
Db	1321	tcggggggcgggtataccctaaagcgaacgtgtgttgatgcgaaacgagatggagaggtt	1360
OY	1381	gatggaaagcttataataattgacaactcgttgcagcttgagaaataagtttcaggaacg	1440
Db	1381	gatggaaagcttataataattgacaactcgttgcagcttgagaaataagtttcaggaata	1440
OY	1441	agaagaagggtcgaagtagtgcattgaaagcccatgcgcgaacggaatggaaataaaa	1500
Db	1441	agaagaagggtatataataacgataactcttagccaatgcaccaactgagagaggaataat	1500
OY	1501	acagaggttgatttaattcaatttataagtggtgat	1536
Db	1501	aaactaaacttcgcgattgaataatttgcgatt	1536

RESULT 3
 ID AAA81303 standard; DNA; 1827 BP.
 AC
 AA81303;
 DT 04-DEC-2000 (first entry)
 DE N. meningitidis partial DNA sequence orf46-2.seq SEQ ID NO:1048.
 KW Neisseria meningitidis; Neisseria gonorrhoeae; genome; immunogenic;
 KW antigen; vaccine; diagnosis; infection; antibacterial; identification;
 KW Meningococcus B; MenB; ds.
 XX Neisseria meningitidis.
 OS
 PN WO200022430-A2.
 XX
 PD 20-APR-2000.
 XX
 PF 08-OCT-1999; 99WO-US23573.
 XX
 PR 09-OCT-1998; 98US-0103794.
 PR 30-APR-1999; 99US-0132068.
 PA (CHIR) CHIRON CORP.
 XX
 PI Frizer CM, Hickey E, Peterson J, Tettelin H, Venter JC;
 PI Maignani V, Galeotti C, Mora M, Ratti G, Scarselli M, Scarlato V;
 PI Rappuoli R, Pizza M;
 DR WPI: 2000-318079/27.
 DR P-PSDB: AAB25663.
 PT Isolated nucleotide sequences of Neisseria meningitidis which can be
 PT used in the diagnosis and treatment of N. meningitidis infection and
 PT other Neisserial infections, for example, N.gonorrhoea -
 XX
 PS Example 1; Page 114; 1760pp; English.
 CC The present invention describes methods of obtaining immunogenic
 CC proteins from Neisseria genomic sequences. AAA81453 to AAA82414
 CC represent specifically claimed Neisseria meningitidis genomic DNA
 CC sequences; AAA81260 to AAA81303 and AAB25620 to AAB25663 represent
 CC Neisseria DNA sequences and their corresponding proteins; AAA81254 to
 CC AAA81259 and AAA81304 to AAA81321 represent PCR primers used in the
 CC isolation of Neisseria meningitidis DNA sequences; and AAA81322 to
 CC AAA81452 represent Neisseria meningitidis MenB polynucleotide ORF
 CC sequences, which are all used in the exemplification of the present
 CC invention. The nucleic acid sequences, protein sequences, and antibodies
 CC against them, can be used in the manufacture of a composition. The
 CC composition can be used as a medicament (or in the manufacture of a
 CC medicament) for treating, preventing or diagnosing infection due to

CC Neisserial bacteria. For example, some of the identified proteins could be components of vaccines against *Meningococcus B* against all serotypes; CC and/or against all pathogenic *Neisseriae*. Identification of sequences from the bacterium will also facilitate production of biological probes, particularly organism-specific probes. Attempts to make efficacious *Meningococcus B* vaccines have failed mainly due to antigen tolerance. Multivalent vaccines have also been tried but none have successfully overcome antigenic variability. The provision of further, complete CC sequences may provide an opportunity to identify secreted or surface CC exposed proteins that may be presumed targets for the immune system and which are not antigenically variable or at least more conserved than CC other more variable regions.

XX Sequence 1827 BP; 539 A; 446 C; 454 G; 387 T; 1 other;

Query Match 75.7%; Score 1427.8; DB 21; Length 1827;
Best Local Similarity 95.6%; Pred. No. 0;
Matches 1468; Conservative 0; Mismatches 68; Indels 0; Gaps 0;

QY 1 ttgggcatctccgcaaaatcccttatctgtccatcagcgagtgctgctgagtg 60
DB 1 ttgggcatctccgcaaaatcccttatctgtccatcagcgagtgctgctgagtg 60
QY 61 catgacacgctcagatttggcaaacgcatcccttatccgcaaggtctcagacgtcaag 120
DB 61 catgacacgctcagatttggcaaacgcatcccttatccgcaaggtctcagacgtcaag 120
QY 121 catctcgaaacccgagcggaataatcacctatctggcagcagggggagcttgcnaagcgc 180
DB 121 catctcgaaacccgagcggaataatcacctatctggcagcagggggagcttgcnaagcgc 180
QY 181 aacggccatcgcgtatgggaataatcaccaagccatcagcttggggccactatgatataa 240
DB 181 aacggccatcgcgtatgggaataatcaccaagccatcagcttggggccactatgatataa 240
QY 241 caggcgcgcttgaaggaataatcgcgtacatctgctcgtcttccgatacagggacacaa 300
DB 241 caggcgcgcttgaaggaataatcgcgtacatctgctcgtcttccgatacagggacacaa 300
QY 301 ttccattgcctctcgaacacatgctccatctccgattcttgcagaaagccgtatgccc 360
DB 301 ttccattgcctctcgaacacatgctccatctccgattcttgcagaaagccgtatgccc 360
QY 361 gttagcggattcagccttaccgcatctccattggagcagatagcaacacatcccccgcagc 420
DB 361 gttagcggattcagccttaccgcatctccattggagcagatagcaacacatcccccgcagc 420
QY 421 ggcatacgggccaagggcgcggtatccgcgtccccaagggcgagggatataac 480
DB 421 ggcatacgggccaagggcgcggtatccgcgtccccaagggcgagggatataac 480
QY 481 agctacgacataaaggcggtggcccaaaatctcgccttcaacctgacccgaacaccgagc 540
DB 481 agctacgacataaaggcggtggcccaaaatctcgccttcaacctgacccgaacaccgagc 540
QY 541 aacgggacaacgcttgcagacgcttccacaatgccggcggtatgctgacagcaggaatga 600
DB 541 aacgggacaacgcttgcagacgcttccacaatgccggcggtatgctgacagcaggaatga 600
QY 601 ggcagcggattcaaacgcgcacccgcatagcggccggagctggacagatcggaatgccc 660
DB 601 ggcagcggattcaaacgcgcacccgcatagcggccggagctggacagatcggaatgccc 660
QY 661 gccgaagcctcaacgagcagcagatatacgttaaaaacatcatcgcgcgagcaggaata 720
DB 661 gccgaagcctcaacgagcagcagatatacgttaaaaacatcatcgcgcgagcaggaata 720
QY 721 attctcggcagcagcagatcgctgacgggtataagcgaagcctcaacatctgctgcatg 780
DB 721 attctcggcagcagcagatcgctgacgggtataagcgaagcctcaacatctgctgcatg 780
QY 781 cagcgcttggtctgcttccacccgaaaacagatggcgcatcaagatttggcagat 840

DB 781 cagcgcttggtctgcttccacccgaaaacagatggcgcatcaagatttggcagat 840
QY 841 atggcgcaactcaaaagactatgcccagcagcagcatcccgcatctggcgagtcacaaacccc 900
DB 841 atggcgcaactcaaaagactatgcccagcagcagcatcccgcatctggcgagtcacaaacccc 900
QY 901 aatccgcacaaaggcataagaagccgttcaagcatatcttattgcaagcatcccatcaaa 960
DB 901 aatccgcacaaaggcataagaagccgttcaagcatatcttattgcaagcatcccatcaaa 960
QY 961 gggattggagctgctcggggaaaataacgcttggcgagcagcagcagcatccctgcaag 1020
DB 961 gggattggagctgctcggggaaaataacgcttggcgagcagcagcagcatccctgcaag 1020
QY 1021 cgttcgacagatggcgagcagcagcatctgcccgaaggggaatccgcgtcagcagcaattt 1080
DB 1021 cgttcgacagatggcgagcagcagcatctgcccgaaggggaatccgcgtcagcagcaattt 1080
QY 1081 gccgattggcagcagcagcagcagcagcagcagcagcagcagcagcagcagcagcagcag 1140
DB 1081 gccgattggcagcagcagcagcagcagcagcagcagcagcagcagcagcagcagcagcag 1140
QY 1141 ttggagcagcagcagcagcagcagcagcagcagcagcagcagcagcagcagcagcagcagc 1200
DB 1141 ttggagcagcagcagcagcagcagcagcagcagcagcagcagcagcagcagcagcagcagc 1200
QY 1201 aaaaatgtcaactgtgcagacccaacgcccagcagcagcagcagcagcagcagcagcagcagc 1260
DB 1201 aaaaatgtcaactgtgcagacccaacgcccagcagcagcagcagcagcagcagcagcagcagc 1260
QY 1261 ggggttccggaatttggagaagcagcgtgaataatgatacgaagctcgatatccaagatta 1320
DB 1261 ggggttccggaatttggagaagcagcgtgaataatgatacgaagctcgatatccaagatta 1320
QY 1321 tcggggggcggtatacctaagcagcagcagcagcagcagcagcagcagcagcagcagcagcagc 1380
DB 1321 tcggggggcggtatacctaagcagcagcagcagcagcagcagcagcagcagcagcagcagcagc 1380
QY 1381 gataaggaagccttaataatgtgacaactcgtgagcagcagcagcagcagcagcagcagcagc 1440
DB 1381 gataaggaagccttaataatgtgacaactcgtgagcagcagcagcagcagcagcagcagcagc 1440
QY 1441 aggaagcagcagcagcagcagcagcagcagcagcagcagcagcagcagcagcagcagcagc 1500
DB 1441 aggaagcagcagcagcagcagcagcagcagcagcagcagcagcagcagcagcagcagcagc 1500
QY 1501 acagggctagatttaactattatagctgagat 1536
DB 1501 aaactaaatctgcgattgaatattatgagat 1536

RESULT 4
AAAF21608
ID AAF21608 standard; DNA; 349980 BP.
XX
AC AAF21608;
DT 13-MAR-2001 (first entry)
XX
DE Neisseria meningitidis B nucleotide sequence SEQ ID NO:109.
XX
XX Neisseria meningitidis; Neisseria gonorrhoeae; immunogenic; vaccine;
KM diagnosis; antigen; detection; infection; gene therapy; antibacterial;
ds.
XX Neisseria meningitidis.
OS
PN MO20006791-A1.
XX
PD 09-NOV-2000.
XX
PF 08-MAR-2000; 2000MO-US05928.

XX 30-APR-1999; 99US-0132068.
PR 08-OCT-1999; 99MO-US33573.
PR 28-FEB-2000; 2000GB-0004695.
XX

PA (CHIR) CHIRON CORP.
PA (GENO-) INST GENOMIC RES.

PI Pizarra M, Hickey E, Peterson J, Tettelin H, Venter JC, Masigani V,
PI Galeotti C, Mora M, Ratti G, Scarselli M, Scariato V, Rappuoli R,
PI Frazer CM, Grandi G;
XX WPI: 2000-647603/62.

XX Neisseria meningitidis B full length genome sequence and open reading
PT frames are used to detect, treat and prevent Neisserial infections -
XX

PS Claim 7: Appendix A: 692pp; English.

CC The present invention describes the full length genome of
CC Neisseria meningitidis B (NMB). The sequences in AAF21544 and AAF21607
CC to AAF21613 represent fragments of the NMB genomic sequence, as the
CC sequence was too long to go in a record on its own it was split into 8
CC sequences which overlap each other at the beginning and end of each
CC sequence by 49980 bp (i.e. the last 49980 bp of AAF21544 is repeated at
CC the beginning of AAF21607, the last 49980 bp of AAF21607 are repeated at
CC the beginning of AAF21608, and so on). AAF21545 to AAF21588 encode the
CC Neisseria proteins given in AAB58550 to AAB58593, and AAF21589 to
CC AAF21606 represent PCR primers which are used in the exemplification of
CC the present invention. The NMB genome and fragments from it have
CC antibacterial activity, and can be used in vaccines and gene therapy.
CC Neisseria nucleic acids, proteins and/or antibodies which binds to the
CC proteins can be used in compositions for treating or preventing infection
CC due to Neisserial bacteria or as a diagnostic reagent for detecting the
CC presence of Neisserial bacteria or of antibodies raised to Neisserial
CC bacteria. Computers, computer memory, computer storage medium or computer
CC databases can be used in a search to identify open reading frames (ORFs)
CC or coding sequences within the NMB genome. The DNA sequences provide
CC further opportunities to find antigenic or immunogenic proteins which are
CC more effective in vaccines than the outer membrane proteins currently
CC used.
XX
XX
SQ Sequence 349980 BP; 82523 A; 82940 C; 96712 G; 87805 T; 0 other;

Query Match 75.7%; Score 1427.8; DB 21; Length 349980;
Best Local Similarity 95.6%; Freq. NO. 0;
Matches 1468; Conservative 0; Mismatches 68; Indels 0; Gaps 0;

QY 1 ttgggcaattccgcgaataatcccttattctgtcatatcgagtgctgcgagtg 60
DB 75614 ttgggcaattccgcgaataatcccttattctgtcatatcgagtgctgcgagtg 75613
QY 61 catgcaacacgctcagatttggcaaacgatacccttattccgagtgctgcgagtg 120
DB 75674 catgcaacacgctcagatttggcaaacgatacccttattccgagtgctgcgagtg 75733
QY 121 catttgcgaacccgaggaataatcacactattcggcagcaggggagcttgcacagc 180
DB 75734 catttgcgaacccgaggaataatcacactattcggcagcaggggagcttgcacagc 75793
QY 181 aacggcgcataatcgatttgggaataacaaacgcatcagttggcgcacatgatttcaa 240
DB 75794 aacggcgcataatcgatttgggaataacaaacgcatcagttggcgcacatgatttcaa 75853
QY 241 caggcgcgcttgaagaaataatcggttaccatgtccgcttcccgatcagcgacaa 300
DB 75854 caggcgcgcttgaagaaataatcggttaccatgtccgcttcccgatcagcgacaa 75913
QY 301 ttccatgcgcttgcacacacatccttcaatcagatttgcgaagacggatgtcc 360
DB 75914 ttccatgcgcttgcacacacatccttcaatcagatttgcgaagacggatgtcc 75973

QY 361 gttagcagattcagccttaccgcatcatcttggagcgaatagcaacaccatccgcgcac 420
DB 75974 gttagcagattcagccttaccgcatcatcttggagcgaatagcaacaccatccgcgcac 76033
QY 421 ggtatgagcgggccacagggcggtatccgcgtcccaagggcgagggatataac 480
DB 76034 ggtatgagcgggccacagggcggtatccgcgtcccaagggcgagggatataac 76093
QY 481 agctacacataaaggcgttgcgaataatccgctcaactcagtcgacacacgcagc 540
DB 76094 agctacacataaaggcgttgcgaataatccgctcaactcagtcgacacacgcagc 76153
QY 541 accggaacagcgcttgcgacgcttcccaaatccgcgcgtatgtgacgaagagta 600
DB 76154 accggaacagcgcttgcgacgcttcccaaatccgcgcgtatgtgacgaagagta 76213
QY 601 ggcgaacgattcaaacgcgcacccgatacagcccgagcttgacagatccggcaatgc 660
DB 76214 ggcgaacgattcaaacgcgcacccgatacagcccgagcttgacagatccggcaatgc 76273
QY 661 gccgaagccttcaacgagcagctgagatcgtcaaaaacatcgcgcgcgcaagagaa 720
DB 76274 gccgaagccttcaacgagcagctgagatcgtcaaaaacatcgcgcgcgcaagagaa 76333
QY 721 atgtcgcgcagcgagtcgctgcaggggtataagcgaagtcacaaatgtctgtatg 780
DB 76334 atgtcgcgcagcgagtcgctgcaggggtataagcgaagtcacaaatgtctgtatg 76393
QY 781 caegcgcttggctgtcttccaccggaataaagatgagcgcgatcaacgatttggagat 840
DB 76394 caegcgcttggctgtcttccaccggaataaagatgagcgcgatcaacgatttggagat 76453
QY 841 atgacgaactcaagaactatgcccagcagcagcatccgagtgagtgacatccaaacccc 900
DB 76454 atgacgaactcaagaactatgcccagcagcagcatccgagtgagtgagtgacatccaaacccc 76513
QY 901 aatgcgcacaagcgatagaaagcgctcgaatatacttattgagcagcatcccatcaaa 960
DB 76514 aatgcgcacaagcgatagaaagcgctcgaatatacttattgagcagcatcccatcaaa 76573
QY 961 gggattggaactgttcggggaaataatcggttggcgatcagcgaatccgttcaag 1020
DB 76574 gggattggaactgttcggggaaataatcggttggcgatcagcgaatccgttcaag 76633
QY 1021 cgttcgagatggcgcgatcgcatctgcgaagaagggaatccgcctcagcgacaattt 1080
DB 76634 cgttcgagatggcgcgatcgcatctgcgaagaagggaatccgcctcagcgacaattt 76693
QY 1081 gccgatgcgcatacgcgaataatccgctcccttaccatccggaatatcgttcaaac 1140
DB 76694 gccgatgcgcatacgcgaataatccgctcccttaccatccggaatatcgttcaaac 76753
QY 1141 ttggagcaggttaccgcaagaataatcacttccaaacgctgcgcgcgtcaaacgcgc 1200
DB 76754 ttggagcaggttaccgcaagaataatcacttccaaacgctgcgcgcgtcaaacgcgc 76813
QY 1201 aaaaatgtcaactgtgagacccaagccacccgaagaacagcgcttaccggttgaat 1260
DB 76814 aaaaatgtcaactgtgagacccaagccacccgaagaacagcgcttaccggttgaat 76873
QY 1261 gggttccgaatttgaagaacgctgaaataatgatagaagcgtcgtatataagaatta 1320
DB 76874 gggttccgaatttgaagaacgctgaaataatgatagaagcgtcgtatataagaatta 76933
QY 1321 tcgggggaggttaccgaagcgttgaagcgttggatgcgaacacggaatggaggtt 1380
DB 76934 tcgggggaggttaccgaagcgttgaagcgttggatgcgaacacggaatggaggtt 76993
QY 1381 gataggaagcttaataatgtacaactcgtgaacgaggtggaagaaatgttcaagaag 1440
DB 76994 gataggaagcttaataatgtacaactcgtgaacgaggtggaagaaatgttcaagaag 77053
QY 1441 agaaagaagagtcagagtagtcaagtttaaaagcccatgcgcaacgagatgggaataaa 1500

Db 77054 aggaacggtatataaagaacttagccaacatgctcaactagagggaattaat 77113
 Qy 1501 aagaggttagttatcatcttataggtggtgat 1536
 Db 77114 aaactaaatctgcgcgaatgaatttgcagat 77149

RESULT 5

AA212174
 ID AA212174 standard; DNA; 1671 BP.

AA212174;

08-OCT-1999 (first entry)

Neisseria meningitidis strain A complete ORF46 sequence.

Neisseria meningitidis; Neisseria gonorrhoeae; antigen; vaccine;

treatment; Neisseria infection; meningitis; septicaemia; gonorrhea; ss.

Neisseria meningitidis.

W09924578-A2.

20-MAY-1999.

09-OCT-1998; 98WC-IB01665.

01-SEP-1998; 98GB-0019016.

06-NOV-1997; 97GB-0023516.

14-NOV-1997; 97GB-0024190.

18-NOV-1997; 97GB-0024386.

27-NOV-1997; 97GB-0025158.

10-DEC-1997; 97GB-0026147.

14-JAN-1998; 98GB-0000759.

(CHIR-) CHIRON SPA.

Grandi G, Masignani V, Pizza M, Rappuoli R, Scarlato V;

WPI: 1999-3327407/27.

P-PSDB; AAY38731.

Proteins from Neisseria meningitidis and N. gonorrhoeae useful for

diagnosis, treatment and prevention of infection

Claim 9; Page 276-277; 524pp; English.

Nucleotide sequences AA211972-212358 represent open reading frames

(ORFs) of Neisseria meningitidis and N. gonorrhoeae which encode

antigenic proteins (see AAY38499-Y38944). The antigenic proteins, their

fragments, their nucleic acids and antibodies are used for diagnosis,

CC prevention (as vaccines) or treatment of Neisseria infections,

CC such as meningitis, septicaemia and gonorrhea. Both organisms

are closely related. Fragments of the nucleic acids are useful

as hybridisation probes and antisense reagents.

Sequence 1671 BP; 484 A; 440 C; 402 G; 345 T; 0 other;

Query Match 65.28; Score 1231.2; DB 20; Length 1671;
 Best Local Similarity 96.34; Pred. No. 0;
 Matches 1260; Conservative 0; Mismatches 49; Indels 0; Gaps 0;

Qy 121 cattcgaaccgagcggaataaccattatccgcagcagggggagcttgcagcgc 180
 Db 121 cattcgaaccgagcggaataaccattatccgcagcagggggagcttgcagcgc 180
 Qy 181 aacgscataatcgatcttggaacacatacaagacatcagttgagccattgattca 240
 Db 181 agcgatcatatcgatcttggaacacatacaagacatcagttgagccattgattca 240
 Qy 241 cagcgccgcttggaagaaatatacgtatcatttccgcttccgatacgggacaaa 300
 Db 241 cagcgccgcttggaagaaatatacgtatcatttccgcttccgatacgggacaaa 300
 Qy 301 ttccattccgcttcgacacacatcgtacattccgattcgtacgaagcggtatccc 360
 Db 301 ttccattccgcttcgacacacatcgtacattccgattcgtacgaagcggtatccc 360
 Qy 361 gttgacgattacgaccttaccgacatcattggaagacacacacatccgcgac 420
 Db 361 gttgacgattacgaccttaccgacatcattggaagacacacacatccgcgac 420
 Qy 421 ggtatgacgggacacagggcggtatcccgctcccaagggcgagggatatatac 480
 Db 421 ggtatgacgggacacagggcggtatcccgctcccaagggcgagggatatatac 480
 Qy 481 agctacgacataaaagcgcttgcacaaatatacgcgtcaacctgacgacacgcgc 540
 Db 481 agctacgacataaaagcgcttgcacaaatatacgcgtcaacctgacgacacgcgc 540
 Qy 541 accggaacacggcttgcgacacgttccaaatatacgcgtcaacctgacgacacgcgc 600
 Db 541 accggaacacggcttgcgacacgttccaaatatacgcgtcaacctgacgacacgcgc 600
 Qy 601 ggcgaagattcaaaagcgccacacacacacacacacacacacacacacacacac 660
 Db 601 ggcgaagattcaaaagcgccacacacacacacacacacacacacacacacacac 660
 Qy 661 ggcgaagattcaaaagcgccacacacacacacacacacacacacacacacacac 720
 Db 661 ggcgaagattcaaaagcgccacacacacacacacacacacacacacacacacac 720
 Qy 721 attgctgcgacgagcgatcgcttgcaggtataagcgaagctcaaacattgctaat 780
 Db 721 attgctgcgacgagcgatcgcttgcaggtataagcgaagctcaaacattgctaat 780
 Qy 781 caaggttggctgtcttccacacgaagaatagcgcgatataacgatttgcagat 840
 Db 781 caaggttggctgtcttccacacgaagaatagcgcgatataacgatttgcagat 840
 Qy 841 atgycgaactcaaaagactatgctgcgacgacatccgatttgcgagttccaaaccc 900
 Db 841 atgycgaactcaaaagactatgctgcgacgacatccgatttgcgagttccaaaccc 900
 Qy 901 aatgycgaacgagctataaagcgttcagcaatatttataatgacgacatcccaaaa 960
 Db 901 aatgycgaacgagctataaagcgttcagcaatatttataatgacgacatcccaaaa 960
 Qy 961 gggatgggctgtcgtggggaataatagcgttggcgagatatacgggacatcttcaag 1020
 Db 961 gggatgggctgtcgtggggaataatagcgttggcgagatatacgggacatcttcaag 1020
 Qy 1021 cgttcgacatggtgcgacatcgcgacgacgacgacgacgacgacgacgacgacgac 1080
 Db 1021 cgttcgacatggtgcgacatcgcgacgacgacgacgacgacgacgacgacgacgac 1080
 Qy 1081 gccgacgacgacgacgacgacgacgacgacgacgacgacgacgacgacgacgacgac 1140
 Db 1081 gccgacgacgacgacgacgacgacgacgacgacgacgacgacgacgacgacgacgac 1140
 Qy 1141 ttgagcagcgtttagcgaagaagaagaagaagaagaagaagaagaagaagaagaaga 1200
 Db 1141 ttgagcagcgtttagcgaagaagaagaagaagaagaagaagaagaagaagaagaaga 1200
 Qy 1201 aaaaatgtaaacctgacgacgacgacgacgacgacgacgacgacgacgacgacgac 1260

Db 1201 aagaatgtgaactgcaacaaacgcaacgaagacaaatgctgagcgtlaaa 1260
OY 1261 ggggttcgaatttggagaagcgtgaatatgatacgaagctcgata 1309
Db 1261 ggggttcgaatttggagaagcgtgaatatgatacgaagcgtlaaa 1309

RESULT 6

AAS43903
ID AAS43903 standard; DNA: 2304 BP.

XX AAS43903;

DT 18-DEC-2001 (first entry)

DE Neisseria meningitidis fusion protein 961cL-ORF46.1 DNA.

XX Neisseria gonorrhoeae; leader peptide; fusion protein; ORF46.1; ds;

KW Neisseria protein.

XX Neisseria meningitidis.

OS Synthetic.

PN WO200164922-A2.

PD 07-SEP-2001.

PF 28-FEB-2001; 2001WO-IB00452.

PR 28-FEB-2000; 2000GB-0004695.

PR 13-NOV-2000; 2000GB-0027675.

PA (CHIR-) CHIRON SPA.

XX Arico MB, Comanducci M, Galeotti C, Massignani V, Guillian MM;
PI Pizsa M;

DR WPI; 2001-582163/65.

DR P-PSDB; AAU27606.

PT Producing heterologous proteins from Neisseria meningitidis and N.
PT gonorrhoeae -

XX Example 23; Page 73-74; 119pp; English.

CC The invention relates to methods for the heterologous expression of
CC Neisserial proteins from Neisseria meningitidis and Neisseria
CC gonorrhoeae. At least one domain in the protein is deleted, e.g. the
CC leader peptide, and may be replaced by a domain from a different protein
CC to make a fusion protein, in order to enhance heterologous expression of
CC Neisserial proteins. Also, a region of a protein, such as a poly-glycine
CC stretch, can be mutated to enhance expression. The proteins used in the
CC processes include ORF46.1, 287, 741, 919, 953, 961 and 983. Sequences
CC AAS43868-AAS43905 represent DNA molecules encoding Neisserial proteins
CC and peptide regions of proteins of the invention.

XX Sequence 2304 BP; 710 A; 619 C; 555 G; 420 T; 0 other;

Query Match 63.5%; Score 1198.8; DB 22; Length 2304;
Best Local Similarity 98.1%; Pred. No. 0;
Matches 1212; Conservative 0; Mismatches 23; Indels 0; Gaps 0;

OY 73 taagattggcaaacgattcccttaccgagcgttcgacccgtcaacatttgaacc 132
Db 1069 tcaagattggcaaacgattcccttaccgagcgttcgacccgtcaacatttgaacc 1128

OY 133 gacggaaataacacatttcgacgagcgagcgttcgacgagcgaacgacatc 192
Db 1129 gacggaaataacacatttcgacgagcgagcgttcgacgagcgaacatc 1188

OY 193 ggattgggaacatacaaacgcatcagttggcaccgtgatcaaacaggcgccgtt 252

Db 1189 ggaattggaaaataatacaaacccatcagttggcaacctgatattcaacaggcgccatt 1248
OY 253 gaaggaataatcgctacacatttgcgcttccgacacagggacaacattccattcc 312
Db 1249 aaaggaataatcgctacacatttgcgcttccgacacagggacaacattccattcc 1308
OY 313 ttcgacaacattgctacattccgaatttcgaacgaacggttagtccttgaacgattc 372
Db 1309 ttgacaacattgctacattccgaatttcgaacgaacggttagtccttgaacgattc 1368
OY 373 agccttaacgcaatcatttggagagatacgaacacattccgcgcgacgttatgacg 432
Db 1369 agccttaacgcaatcatttggagagatacgaacacattccgcgcgacgttatgacg 1428
OY 433 ccacagggcgagcgttatcccgctcccaaggcgagagatatacagctacgacata 492
Db 1429 ccacagggcgagcgttatcccgctcccaaggcgagagatatacagctacgacata 1488
OY 493 aaagcgcttgcccaataatcgcctcaacactlgaccgacaacccgacacccgacaacg 552
Db 1489 aaagcgcttgcccaataatcgcctcaacactlgaccgacaacccgacacccgacaacg 1548
OY 553 ctggcgaacgcttcccaaatcgcctcaacactlgaccgacaacccgacacccgacaacg 612
Db 1549 ctggcgaacgcttcccaaatcgcctcaacactlgaccgacaacccgacacccgacaacg 1608
OY 613 aaacgac 672
Db 1609 aaacgac 1668
OY 673 aaacgac 732
Db 1669 aaacgac 1728
OY 733 ggcgagtcgctgcaaggtataaagcgagctcaaacattgctgctacgagcttggt 792
Db 1729 ggcgagtcgctgcaaggtataaagcgagctcaaacattgctgctacgagcttggt 1788
OY 793 ctgcttccac 852
Db 1789 ctgcttccac 1848
OY 853 aaagactatgcgcgac 912
Db 1849 aaagactatgcgcgac 1908
OY 913 ggcataaagcgttcgacatatttataggcagcattcccatcaaaaggattggagct 972
Db 1909 ggcataaagcgttcgacatatttataggcagcattcccatcaaaaggattggagct 1968
OY 973 gtcggggaataatcagcgttgccgagcgcacacacacacacacacacacacacacacacac 1032
Db 1969 gtcggggaataatcagcgttgccgagcgcacacacacacacacacacacacacacacacac 2028
OY 1033 ggcgcgacatgcgcgcgaaggaatccgcgcgtcagcgaacatttgcgcgtcgca 1092
Db 2029 ggcgcgacatgcgcgcgaaggaatccgcgcgtcagcgaacatttgcgcgtcgca 2088
OY 1093 taagccaataacgctcccttaccattccgaataatccggtcaacttggagcagcgt 1152
Db 2089 taagccaataacgctcccttaccattccgaataatccggtcaacttggagcagcgt 2148
OY 1153 taagccaataacgctcccttaccattccgaataatccggtcaacttggagcagcgt 1212
Db 2149 taagccaataacgctcccttaccattccgaataatccggtcaacttggagcagcgt 2208
OY 1213 ctggcagac 1272
Db 2209 ctggcagac 2268
OY 1273 ttgagaagcagctgaataatgatacgaagctga 1307

ID AAS43874 standard; DNA; 4425 BP.
AC AAS43874;
XX
DT 18-DEC-2001 (first entry)
XX
DE Neisseria meningitidis fusion protein delta-G983-ORF46.1 DNA.
XX
KM Neisseria gonorrhoeae; leader peptide; fusion protein; ORF46.1; ds;
XX Neisserial protein.
OS Neisseria meningitidis.
XX Synthetic.
PN WO200164922-A2.
XX
PD 07-SEP-2001.
XX
PF 28-FEB-2001; 2001MO-IB00452.
XX
PR 28-FEB-2000; 2000GB-0004695.
PR 13-NOV-2000; 2000GB-0027675.
XX
PA (CHIR-) CHIRON SPA.
XX
PI Atico MB, Comanducci M, Galeotti C, Masignani V, Giuliani MM;
PI Piza M;
XX
DR WPI: 2001-582163/65.
DR P-PSDB: AAU27575.
XX
PT Producing heterologous proteins from Neisseria meningitidis and N.
PT gonorrhoeae -
XX
PS Example 15; Page 42-43; 119pp; English.
XX
CC The invention relates to methods for the heterologous expression of
CC Neisserial proteins from Neisseria meningitidis and Neisseria
CC gonorrhoeae. At least one domain in the protein is deleted, e.g. the
CC leader peptide, and may be replaced by a domain from a different protein
CC to make a fusion protein, in order to enhance heterologous expression of
CC Neisserial proteins. Also, a region of a protein, such as a poly-glycine
CC stretch, can be mutated to enhance expression. The proteins used in the
CC processes include ORF46.1, 287, 741, 919, 953, 961 and 983. Sequences
CC AAS43868-AAS43905 represent DNA molecules encoding Neisserial proteins
CC and peptide regions of proteins of the invention.
XX
XX
SQ Sequence 4425 BP; 1165 A; 1259 C; 1219 G; 782 T; 0 other;

Query Match 63.4%; Score 1196; DB 22; Length 4425;
Best Local Similarity 98.3%; Pred. No. 0;
Matches 1208; Conservative 0; Mismatches 21; Indels 0; Gaps 0;

QY 71 cctcagattggcaaacgaccccttaccgaggtcttcgacccgtacgatttcgac 130
DB 3170 cctcagattggcaaacgaccccttaccgaggtcttcgacccgtacgatttcgac 3229
QY 131 ccgacgggaataaccactatttcgacgaggggagcttgcacagcgcaagggcata 190
DB 3230 ccgacgggaataaccactatttcgacgaggggagcttgcgagcgcgccata 3289
QY 191 tggagttgggaataacatacaagcctcagttgggaccactgtatgaacagcgcgca 250
DB 3290 tggagttgggaataacatacaagcctcagttgggaccactgtatgaacagcgcgca 3349
QY 251 ttgaagggaataatcggtacatttcggtcttcgacatcagggcacaatttcattcgc 310
DB 3350 ttaagggaataatcggtacatttcggtcttcgacatcagggcacaagcatttcgc 3409
QY 311 ccttcgacaacacatcgctacatttcgacgttcgacgagcggtatcccggttcgag 370
DB 3410 ccttcgacaacacatcgctacatttcgacgttcgacgagcggtatcccggttcgag 3469

QY 371 tcaagcttaccgcatccatttggagcgagatagacacacatcccgccgacgtatgacg 430
DB 3470 ttaagcttaccgcatccatttggagcgagatagacacacatcccgccgacgtatgacg 3529
QY 431 ggcacagggcgcggtatcccgctcccaaggcgagggatataatacagctacgaca 490
DB 3530 ggcacagggcgcggtatcccgctcccaaggcgagggatataatacagctacgaca 3589
QY 491 taaaggcggttggcccaataatccgctcaacccgagccgacacgcgacgcgacac 550
DB 3590 taaaggcggttggcccaataatccgctcaacccgagccgacacgcgacgcgacac 3649
QY 551 ggcttggccgacggttcccaaatgcccgcgtatgctgacgcaaggagtaaggacgag 610
DB 3650 ggcttggccgacggttcccaaatgcccgcgtatgctgacgcaaggagtaaggacgag 3709
QY 611 tcaaacgcgcaaccgataacagcccgagctggacagatctgggcaattgcccgaagc 670
DB 3710 tcaaacgcgcaaccgataacagcccgagctggacagatctgggcaattgcccgaagc 3769
QY 671 tcaacgcgcaactgagatatacgtcaaaaacatcatcgcgcgcaaggagaatttgcg 730
DB 3770 tcaacgcgcaactgagatatacgtcaaaaacatcatcgcgcgcaaggagaatttgcg 3829
QY 731 cagcgatgctgagggataggaagctcaaacattgctatgcatcagcggttgg 790
DB 3830 cagcgatgctgagggataggaagctcaaacattgctatgcatcagcggttgg 3889
QY 791 gctcgttccacccaagaataaggcgagcatcaaatgcttggcagatgagcgcaac 850
DB 3890 gctcgttccacccaagaataaggcgagcatcaaatgcttggcagatgagcgcaac 3949
QY 851 tcaaacactatgcccagcagcagcatccgatttggcagttcccaaaccccaatgcgcgac 910
DB 3950 tcaaacactatgcccagcagcagcatccgatttggcagttcccaaaccccaatgcgcgac 4009
QY 911 aagcatalaagcgctcagcaatattttatgagccatccccaataaggatggag 970
DB 4010 aagcatalaagcgctcagcaatattttatgagccatccccaataaggatggag 4069
QY 971 ctgtccggggaataatcggttggcgagcatcagcagcatctctcaagcggttcgaga 1030
DB 4070 ctgtccggggaataatcggttggcgagcatcagcagcatctctcaagcggttcgaga 4129
QY 1031 tggcgcgatcgatctgcggaagggaatccgctcagcgacaatttcccgatcg 1090
DB 4130 tggcgcgatcgatctgcggaagggaatccgctcagcgacaatttcccgatcg 4189
QY 1091 catacgccaataatccgcttcccttaccattcccgaaatatccgttaacttggagcagc 1150
DB 4190 catacgccaataatccgcttcccttaccattcccgaaatatccgttaacttggagcagc 4249
QY 1151 gttacggcaagaataatcaactcctcaacgcttgcgcgcttcaaaagcgaataatgtca 1210
DB 4250 gttacggcaagaataatcaactcctcaacgcttgcgcgcttcaaaagcgaataatgtca 4309
QY 1211 aacttggagaacacagcccgacgaagacagcggtaccgttggcgttaagggttccga 1270
DB 4310 aacttggagaacacagcccgacgaagacagcggtaccgttggcgttgaagggttccga 4369
QY 1271 attttgagaagcagtgaaatatgatacg 1299
DB 4370 attttgagaagcagtgaaatatgatacg 4398

RESULT 11
ADD17039
ID AAD17039 standard; DNA; 4425 BP.
XX
AC AAD17039;
XX
DT 29-NOV-2001 (first entry)

XX Neisseria meningitidis fusion protein ORF46.1-741 DNA.
 XX Neisseria gonorrhoeae; leader peptide; fusion protein; ORF46.1; ds;
 KW Neisserial protein.
 XX Neisseria meningitidis.
 OS Synthetic.
 PN MO200164922-A2.
 XX 07-SEP-2001.
 PD 28-FEB-2001; 2001WO-1B00452.
 XX 28-FEB-2000; 2000GB-0004695.
 PR 13-NOV-2000; 2000GB-0027675.
 XX (CHIR-) CHIRON SPA.
 PA
 XX Arico MB, Comanducci M, Galeotti C, Masignani V, Giuliani MM,
 PI Pizza M.
 XX WPI: 2001-582163/65.
 DR P-PSDB: AA027597.
 XX Producing heterologous proteins from Neisseria meningitidis and N.
 PT gonorrhoeae -
 PS Example 23; Page 63-64; 119pp; English.
 CC The invention relates to methods for the heterologous expression of
 CC Neisserial proteins from Neisseria meningitidis and Neisseria
 CC gonorrhoeae. At least one domain in the protein is deleted, e.g. the
 CC leader peptide, and may be replaced by a domain from a different protein
 CC to make a fusion protein, in order to enhance heterologous expression of
 CC Neisserial proteins. Also, a region of a protein, such as a poly-glycine
 CC stretch, can be mutated to enhance expression. The proteins used in the
 CC processes include ORF46.1, 287, 741, 919, 953, 961 and 983. Sequences
 CC AAS3868-AAS43905 represent DNA molecules encoding Neisserial proteins
 CC and peptide regions of proteins of the invention.
 CC
 XX
 XX Sequence 2019 BP; 555 A; 571 C; 531 G; 362 T; 0 other;
 SQ

Query Match 63.3%; Score 1194; DB 22; Length 2019;
 Best Local Similarity 98.3%; Pred. No. 0; Mismatches 21; Indels 0; Gaps 0;
 Matches 1206; Conservative 0;

QY 73 tcagatttgcaaacagctcccttaccgagcaggttcgcacgcgtcagatttcgaacc 132
 |||||||
 Db 4 tcgatttgcaaacagctcccttaccgagcaggttcgcacgcgtcagatttcgaacc 63
 QY 133 gacgggaaatataccactatcgcagcagggggaggttcgcnaagcgaacgcatatc 192
 |||||||
 Db 64 gacgggaaatataccactatcgcagcagggggaggttcgcnaagcgaacgcatatc 123
 QY 193 ggattgggaaatataccactatcgcagcaggttcgcacgcgtcagatttcgaacc 252
 |||||||
 Db 124 ggattgggaaatataccactatcgcagcaggttcgcacgcgtcagatttcgaacc 183
 QY 253 gaaggaatataccactatcgcagcaggttcgcacgcgtcagatttcgaacc 312
 |||||||
 Db 184 aaaggaatataccactatcgcagcaggttcgcacgcgtcagatttcgaacc 243
 QY 313 ttcgacaacacatgcctacatcgcaggttcgcagcagggagtcagtcagtcagtc 372
 |||||||
 Db 244 ttcgacaacacatgcctacatcgcaggttcgcagcagggagtcagtcagtcagtc 303
 QY 373 agccttaccgacatcatttgagcaggttcgagcagcagcagcagcagcagtcagtc 432
 |||||||
 Db 304 agccttaccgacatcatttgagcaggttcgagcagcagcagcagcagcagtcagtc 363

QY 433 ccacagggcgagcagctatcccgctccccaagcgcgagggatatacagcagcagata 492
 |||||||
 Db 364 ccacagggcgagcagcagctatcccgctccccaagcgcgagggatatacagcagcagata 423
 QY 493 aaagcggttgcacaaatataccgctcaacgtgacacgaacacgcagcagcagcagc 552
 |||||||
 Db 424 aaagcggttgcacaaatataccgctcaacgtgacacgaacacgcagcagcagcagc 483
 QY 553 ctgcgcacgcttcccaaatgcagcagcagcagcagcagcagcagcagcagcagcagc 612
 |||||||
 Db 484 ctgcgcacgcttcccaaatgcagcagcagcagcagcagcagcagcagcagcagcagc 543
 QY 613 aaacgcgcacgcttcccaaatgcagcagcagcagcagcagcagcagcagcagcagc 672
 |||||||
 Db 544 aaacgcgcacgcttcccaaatgcagcagcagcagcagcagcagcagcagcagcagc 603
 QY 673 aaacgcgcacgcttcccaaatgcagcagcagcagcagcagcagcagcagcagcagc 732
 |||||||
 Db 604 aaacgcgcacgcttcccaaatgcagcagcagcagcagcagcagcagcagcagcagc 663
 QY 733 ggcgatccgctgagcaggtatagcagcagcagcagcagcagcagcagcagcagcagc 792
 |||||||
 Db 664 ggcgatccgctgagcaggtatagcagcagcagcagcagcagcagcagcagcagcagc 723
 QY 793 ctgcttccacacggaacaaagatgagcagcagcagcagcagcagcagcagcagcagc 852
 |||||||
 Db 724 ctgcttccacacggaacaaagatgagcagcagcagcagcagcagcagcagcagcagc 783
 QY 853 aaagactatgcgcagcagcagcagcagcagcagcagcagcagcagcagcagcagc 912
 |||||||
 Db 784 aaagactatgcgcagcagcagcagcagcagcagcagcagcagcagcagcagcagc 843
 QY 913 ggcataagcgcgcagcagcagcagcagcagcagcagcagcagcagcagcagcagc 972
 |||||||
 Db 844 ggcataagcgcgcagcagcagcagcagcagcagcagcagcagcagcagcagcagc 903
 QY 973 gtcgggggaaatacagcgttggcgcagcagcagcagcagcagcagcagcagcagc 1032
 |||||||
 Db 904 gtcgggggaaatacagcgttggcgcagcagcagcagcagcagcagcagcagcagc 963
 QY 1033 ggcgcagcagcagcagcagcagcagcagcagcagcagcagcagcagcagcagc 1092
 |||||||
 Db 964 ggcgcagcagcagcagcagcagcagcagcagcagcagcagcagcagcagcagc 1023
 QY 1093 taagcgaatataccgctcccttaccatcccggaatataccggaatataccggaatata 1152
 |||||||
 Db 1024 taagcgaatataccgctcccttaccatcccggaatataccggaatataccggaatata 1083
 QY 1153 taagcgaatataccgctcccttaccatcccggaatataccggaatataccggaatata 1212
 |||||||
 Db 1084 taagcgaatataccgctcccttaccatcccggaatataccggaatataccggaatata 1143
 QY 1213 ctgcaagaacacgac 1272
 |||||||
 Db 1144 ctgcaagaacacgac 1203
 QY 1273 ttgagaagcagcgtgaatatgacg 1299
 |||||||
 Db 1204 ttgagaagcagcgtgaatatgacg 1230

RESULT 13
 AAD17047
 ID AAD17047 standard; DNA: 2019 BP.
 AC AAD17047;
 XX
 XX 29-NOV-2001 (first entry)
 DE N. meningitidis strain 2996 ORF46.1-741 fusion DNA.
 KW Heterologous expression; Neisserial protein; open reading frame; ORF;
 ORF46.1-741 fusion protein; ds.


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XX  Neisseria meningitidis.
OS  Synthetic.
XX  WO200164922-A2.
XX  07-SEP-2001.
XX  28-FEB-2001; 2001WO-1B00452.
XX  28-FEB-2000; 2000GB-0004695.
XX  13-NOV-2000; 2000GB-0027675.
XX  (CHIR-) CHIRON SPA.
XX  PA
PI  Arico MB, Comanducci M, Galeotti C, Masignani V, Giuliani MM;
PI  Pizsa M;
XX  MPI; 2001-582163/65.
XX  P-PSDB; AAU27599.
XX  Producing heterologous proteins from Neisseria meningitidis and N.
XX  gonorrhoeae.
XX  Example 23; Page 65-66; 119pp; English.
XX  The invention relates to methods for the heterologous expression of
XX  Neisserial proteins from Neisseria meningitidis and Neisseria
XX  gonorrhoeae. At least one domain in the protein is deleted, e.g. the
XX  leader peptide, and may be replaced by a domain from a different protein
XX  to make a fusion protein. In order to enhance heterologous expression of
XX  Neisserial proteins. Also, a region of a protein, such as a poly-glycine
XX  stretch, can be mutated to enhance expression. The proteins used in the
XX  processes include ORF46.1, 287, 741, 919, 953, 961 and 983. Sequences
XX  AAS4386-AAS43905 represent DNA molecules encoding Neisserial proteins
XX  and peptide regions of proteins of the invention.
XX  Sequence 2256 BP; 698 A; 608 C; 545 G; 405 T; 0 other;
SQ
Query Match      63.3%; Score 1194; DB 22; Length 2256;
Best Local Similarity 98.3%; Pred. No. 0;
Matches 1206; Conservative 0; Mismatches 21; Indels 0; Gaps 0;
QY  73  tcgatttggcaaacagatcccttctatccgcaaggttctcgacgttcagatttcgaacc 132
DB  4  tcgatttggcaaacagatcttcttctatccgcaaggttctcgacgttcagatttcgaacc 63
QY  133 gacgggaataatcacactatctcgcaagcagggggaagcttgcacgacgaagccatc 192
DB  64 gacgggaataatcacactatctcgcaagcagggggaagcttgcacgacgaagccatc 123
QY  193 ggaattgggaatacaaaagccatcagttggcgcaacctatgattcaacagcgccgtt 252
DB  124 ggaattgggaatacaaaagccatcagttggcgcaacctatgattcaacagcgccgtt 183
QY  253 gaaggaataatcggtacatctgtcgccttttcgcatcagcggaacaaatcattcgccc 312
DB  184 aaaggaataatcggtacatctgtcgccttttcgcatcagcggaacaaatcattcgccc 243
QY  313 ttgacaacacatgctcacatctccgaattcgaagcaagccgtagtccgtttgaagatcc 372
DB  244 ttgacaacacatgctcacatctccgaattcgaagcaagccgtagtccgtttgaagatcc 303
QY  373 agccttaaccgcatcatttgggaagcgaatacgaacacatcccgccgaagcgtatgaagg 432
DB  304 agccttaaccgcatcatttgggaagcgaatacgaacacatcccgccgaagcgtatgaagg 363
QY  433 ccacagggcgcggtatcccgctcccaagcgcggaaggtatatataacagctaacgacata 492
DB  364 ccacagggcgcggtatcccgctcccaagcgcggaaggtatatataacagctaacgacata 423
QY  493 aaagcgcttgcccaaaatataccgctcacaacctgaccgaacaacgcagcacgcgaacgg 552

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DB  424 aaagcgcttgcccaaaatataccgctcacaacctgaccgaacaacgcagcacgcgaacgg 483
QY  553 ctgtccgacgctttccaaatgaatcgcggtctatgtctgacgcaaggaatgagcgacgattc 612
DB  484 ctgtccgacgctttccaaatgaatcgcggtctatgtctgacgcaaggaatgagcgacgattc 543
QY  613 aaacgcccacccgaatacagccccgagcttggaacagatccggcaatctgcgcgaagccttc 672
DB  544 aaacgcccacccgaatacagccccgagcttggaacagatccggcaatctgcgcgaagccttc 603
QY  673 aacggcacttgagatcgttcaaaaacatcactcgcgcgcgcaaggaagaatgtctgcgcga 732
DB  604 aacggcacttgagatcgttcaaaaacatcactcgcgcgcgcaaggaagaatgtctgcgcga 663
QY  733 ggcgactgcgtgcaaggtatgaagcaaggtccaaacattgtctgtcactgcacggttggt 792
DB  664 ggcgactgcgtgcaaggtatgaagcaaggtccaaacattgtctgtcactgcacggttggt 723
QY  793 ctgcttccaccggaataaagaatgagcgcatcaacgatttggagatatggcgcaactc 852
DB  724 ctgcttccaccggaataaagaatgagcgcatcaacgatttggagatatggcgcaactc 783
QY  853 aaagactatgcgcgacgacgacatccgcgattgggcaatgccaaaccccaatgcccgcacaa 912
DB  784 aaagactatgcgcgacgacgacatccgcgattgggcaatgccaaaccccaatgcccgcacaa 843
QY  913 ggcataagaagccgtcgaacatattcttatgacgacatcccaatcaaaaggaattggagct 972
DB  844 ggcataagaagccgtcgaacatattcttatgacgacatcccaatcaaaaggaattggagct 903
QY  973 gtccggggaataatcggttggcgcatcagcgaatccctgtcgaagcggtcgaagt 1032
DB  904 gtccggggaataatcggttggcgcatcagcgaatccctgtcgaagcggtcgaagt 963
QY  1033 ggcgcgactgcgatttgcgcaaaagggaatccgcgtcagcgacaaatttgcgcgacgca 1092
DB  964 ggcgcgactgcgatttgcgcaaaagggaatccgcgtcagcgacaaatttgcgcgacgca 1023
QY  1093 taagcgaataatccgctcccttaccattcccggaatctcgttcaaatcttggagcgagcgt 1152
DB  1024 taagcgaataatccgctcccttaccattcccggaatctcgttcaaatcttggagcgagcgt 1083
QY  1153 taagcgaataatccgctcccttaccattcccggaatctcgttcaaatcttggagcgagcgt 1212
DB  1084 taagcgaataatccgctcccttaccattcccggaatctcgttcaaatcttggagcgagcgt 1143
QY  1213 ctgcaagaccaaagccacccgaagcagcggtacgcttgaaggttaaagggttcggaat 1272
DB  1144 ctgcaagaccaaagccacccgaagcagcggtacgcttgaaggttaaagggttcggaat 1203
QY  1273 ttggaagacgagtggaataatgatacg 1299
DB  1204 ttggaagacgagtggaataatgatacg 1230

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RESULT 15
AAS43900
ID  AAS43900 standard; DNA; 2256 BP.
XX  AAS43900;
XX  18-DEC-2001 (first entry)
XX  Neisseria meningitidis fusion protein 961c-ORF46.1 DNA.
XX  DE
XX  NE  Neisseria gonorrhoeae; leader peptide; fusion protein; ORF46.1; ds;
XX  KW  Neisseria protein.
XX  OS  Neisseria meningitidis.
XX  OS  Synthetic.
XX  PN  WO200164922-A2.

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XX 07-SEP-2001.
PD 28-FEB-2001; 2001WO-IB00452.
PF 28-FEB-2001; 2000GB-0004695.
XX 28-FEB-2000; 2000GB-0004695.
PR 13-NOV-2000; 2000GB-0027675.
XX (CHIR-) CHIRON SPA.
PA
PI Arico MB, Comanducci M, Galeotti C, Massignani V, Giuliani MM,
PI Piazza M;
XX WPI: 2001-582163/65.
DR P-PSDB: AMU27603.
XX
PT Producing heterologous proteins from *Neisseria meningitidis* and *N.*
PT gonorrhoeae -
XX
PS Example 23; Page 70; 119pp; English.
XX
CC The invention relates to methods for the heterologous expression of
CC *Neisseria* proteins from *Neisseria meningitidis* and *Neisseria*
CC gonorrhoeae. At least one domain in the protein is deleted, e.g. the
CC leader peptide, and may be replaced by a domain from a different protein
CC to make a fusion protein, in order to enhance heterologous expression of
CC *Neisseria* proteins. Also, a region of a protein, such as a poly-glycine
CC stretch, can be mutated to enhance expression. The proteins used in the
CC processes include ORF46.1, 287, 741, 919, 953, 961 and 983. Sequences
CC A543868-A543905 represent DNA molecules encoding *Neisseria* proteins
CC and peptide regions of proteins of the invention.
XX
SQ Sequence 2256 BP; 698 A; 608 C; 545 G; 405 T; 0 other;

Query Match 63.3%; Score 1194; DB 22; Length 2256;
Best Local Similarity 98.3%; Pred. No. 0;
Matches 1206; Conservative 0; Mismatches 21; Indels 0; Gaps 0;

QY 73 tcaagttggcaaaagatccctttatccggaagttctcgacgctcagcatlccgaacc 132
DB 1003 tcaagttggcaaaagatccctttatccggaagttctcgacgctcagcatlccgaacc 1062
QY 133 gacggaataaccactcttcgacgaggggagcttcgacgagcaagcgccatc 192
DB 1063 gacggaataaccactcttcgacgaggggagcttcgacgagcaagcgccatc 1122
QY 193 ggattgggaaacatacaagccatcagttgggcaacatgattcaacagcgccggt 252
DB 1123 ggattgggaaacatacaagccatcagttgggcaacatgattcaacagcgccggt 1182
QY 253 gaaggaataatcgcgtatcgtccgctttccgatacggcgcaaatccatccgccc 312
DB 1183 gaaggaataatcgcgtatcgtccgctttccgatacggcgcaaatccatccgccc 1242
QY 313 ttggaacaacatgctcacttcgattcgaagagcggtagtcggattgaagattc 372
DB 1243 ttggaacaacatgctcacttcgattcgaagagcggtagtcggattgaagattc 1302
QY 373 agccttacgcatacatttggagcgatagcaaacacatcccgcgacggtatgacgg 432
DB 1303 agccttacgcatacatttggagcgatagcaaacacatcccgcgacggtatgacgg 1362
QY 433 ccacagggcgcggtatcccgctcccaagggcgagggatataatagctacgacata 492
DB 1363 ccacagggcgcggtatcccgctcccaagggcgagggatataatagctacgacata 1422
QY 493 aaagcgcttggccaaataatcgcgtacactgagcgaacacgcaagcgacgcaacgg 552
DB 1423 aaagcgcttggccaaataatcgcgtacactgagcgaacacgcaagcgacgcaacgg 1482
QY 553 ctggccgacgcttccacaatcgcgtatgctgacgcaagaggtagcgacgattc 612
|||||

DB 1483 ctggccgacgcttccacaatcgcgtatgctgacgcaagaggtagcgacgattc 1542
QY 613 aaacgcccacccgatacagagcccgagctggagagatgggcaatggccgcaagcttc 672
DB 1543 aaacgcccacccgatacagagcccgagctggagagatgggcaatggccgcaagcttc 1602
QY 673 aaacgcccacccgatacagagcccgagctggagagatgggcaatgggcaatggcgcgca 732
DB 1603 aaacgcccacccgatacagagcccgagctggagagatgggcaatgggcaatggcgcgca 1662
QY 733 ggcgatacgcttgcagggatagcaagggctcaaatctgtctcagtcagcgcttggt 792
DB 1663 ggcgatacgcttgcagggatagcaagggctcaaatctgtctcagtcagcgcttggt 1722
QY 793 ctgcttccacgcgaaacaaagatgctgcgcatcaagatttggcagatgtgcgaacc 852
DB 1723 ctgcttccacgcgaaacaaagatgctgcgcatcaagatttggcagatgtgcgaacc 1782
QY 853 aaagactatgcgcaagacatccgcatlctggcgacgtcccaaaccccaatgcgcacaa 912
DB 1783 aaagactatgcgcaagacatccgcatlctggcgacgtcccaaaccccaatgcgcacaa 1842
QY 913 ggcatagaagcgctcagcaatatttattgagcagccatcccaataagagattgagct 972
DB 1843 ggcatagaagcgctcagcaatatttattgagcagccatcccaataagagattgagct 1902
QY 973 gtcgggggaaatacagcttggcgacatcagcagcatccctgtaagcggtcgcagagt 1032
DB 1903 gtcgggggaaatacagcttggcgacatcagcagcatccctgtaagcggtcgcagagt 1962
QY 1033 ggcgcatcgcatttgcgcaaggaatccgcccgaagcagcaatlttgcgagtcgca 1092
DB 1963 ggcgcatcgcatttgcgcaaggaatccgcccgaagcagcaatlttgcgagtcgca 2022
QY 1093 tacgcaaatccgctcccttaccatcccgaaatatacgttcaaatcttggagcagct 1152
DB 2023 tacgcaaatccgctcccttaccatcccgaaatatacgttcaaatcttggagcagct 2082
QY 1153 tacgcaaatccgctcccttaccatcccgaaatatacgttcaaatcttggagcagct 1212
DB 2083 tacgcaaatccgctcccttaccatcccgaaatatacgttcaaatcttggagcagct 2142
QY 1213 ctggcaagcaacgcaacccggaagcagcggtacgcttggagcgtaaggtttccgaat 1272
DB 2143 ctggcaagcaacgcaacccggaagcagcggtacgcttggagcgtaaggtttccgaat 2202
QY 1273 ttggaagacgctgaatatgacg 1299
DB 2203 ttggaagacgctgaatatgacg 2229

RESULT 16
AADI7049
ID AADI7049 standard; DNA; 2256 BP.
XX
AC AADI7049;
XX
DT 29-NOV-2001 (first entry)
XX
DE N. meningitidis strain 2996 ORF46.1-961c fusion DNA.
XX
KW Heterologous expression; *Neisseria* protein; open reading frame; ORF;
XX ORF46.1-961c fusion protein; ds.
XX
OS *Neisseria meningitidis* 2996.
XX
FH Key Location/Qualifiers
FT CDS 1..2256
FT /tag= a
FT /product= "N. meningitidis strain 2996 ORF46.1-961c
FT fusion protein"
XX
PN MO200164920-A2.

XX 07-SEP-2001.
 PD
 XX
 XX 28-FEB-2001; 2001WO-IB00420.
 PF
 XX 28-FEB-2000; 2000GB-0004695.
 PR
 XX 13-NOV-2000; 2000GB-0026755.
 XX
 PA (CHIR-) CHIRON SPA.
 XX
 PI Arico MB, Comanducci M, Galeotti C, Massignani V, Giuliani MM,
 PI Pizza M;
 XX
 DR WPI; 2001-557776/62.
 XX
 P-PSDB: AAE10034.
 XX
 PT Heterologous expression for the expression of two or more Neisserial
 PT proteins in fused state
 XX
 PS Example 23; Page 26; 52pp; English.
 CC
 CC The present invention relates to a method for simultaneous heterologous
 CC expression of two or more Neisserial proteins which are in a fused
 CC state. The method is useful for simultaneous heterologous expression of
 CC two or more Neisserial proteins. A protein that may be unstable or
 CC poorly expressed on its own is assisted by adding a suitable hybrid
 CC partner and commercial manufacture is simplified-only one expression and
 CC purification need to be employed in order to produce two separately-
 CC useful proteins. The present sequence is a DNA encoding
 CC Neisseria meningitidis (serogroup B, strain 2996) ORF46.1 (open
 CC reading frame)-961c fusion protein.
 XX
 SQ Sequence 2256 BP; 698 A; 608 C; 545 G; 405 T; 0 other;

Query Match 63.3%; Score 1194; DB 22; Length 2256;
 Best Local Similarity 98.3%; Pred. No. 0;
 Matches 1206; Conservative 0; Mismatches 21; Indels 0; Gaps 0;

QY 73 taagatttggcaaacgacatcccttattccggcaggttccgcagctcagcatttgaacc 132
 DB 4 taagatttggcaaacgacatcccttattccggcaggttccgcagctcagcatttgaacc 63
 QY 133 gacgggaaataccacattccttcgacagcagggggagcttgcacagcgaacggccatc 192
 DB 64 gacgggaaataccacattccttcgacagcagggggagcttgcacagcgaacggccatc 123
 QY 193 ggaattgggaaatacaaacgcatcagttggcgaacctgagatcaacaaaggcgcgctt 252
 DB 124 ggaattgggaaatacaaacgcatcagttggcgaacctgagatcaacaaaggcgcgcat 183
 QY 253 gaaggaaatacgcgtacattgtccgcttccgcatacggcaaaattccatccgcc 312
 DB 184 aaagaaataatcgcgtacattgtccgcttccgcatacggcaaaattccatccgcc 243
 QY 313 ttgcgaacacatgctcattccgattctgcagcagcggtagtcccggttgcagcattc 372
 DB 244 ttgcgaacacatgctcattccgattctgcagcagcggtagtcccggttgcagcattc 303
 QY 373 agccttaccgcatcatttggagcagatacgaacacatcccgcgagcgtatgaagg 432
 DB 304 agccttaccgcatcatttggagcagatacgaacacatcccgcgagcgtatgaagg 363
 QY 433 ccacagggcgcgctatccgctcccaaggcgagggatataatacagctaacgaata 492
 DB 364 ccacagggcgcgctatccgctcccaaggcgagggatataatacagctaacgaata 423
 QY 493 aaaggcgttgcacaaataatccgctcaactcagcgaacacacggacagcaggaacaag 552
 DB 424 aaaggcgttgcacaaataatccgctcaactcagcgaacacacggacagcaggaacaag 483
 QY 553 ctggcgacgcttcccaatgcggcgctatgctgacgcgaaggaagtgcgagcagattc 612
 ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

DB 484 ctggcgacgcttcccaatgcggcgctatgctgacgcgaaggaagtgcgagcagattc 543
 QY 613 aaagcgcaaccccgatcaacccccgagcttgaagaatcgggcaattccgcggaagcttc 672
 DB 544 aaagcgcaaccccgatcaacccccgagcttgaagaatcgggcaattccgcggaagcttc 603
 QY 673 aacgcacatcagatcgtcaaaaacatcatcgtcgcgcgacgaagaatctgtcgcgcga 732
 DB 604 aacgcacatcagatcgtcaaaaacatcatcgtcgcgcgacgaagaatctgtcgcgcga 663
 QY 733 ggcgatgcgttgcagggatataagcgaaggtcgaacattgcttcatgcagcgttggt 792
 DB 664 ggcgatgcgttgcagggatataagcgaaggtcgaacattgcttcatgcagcgttggt 723
 QY 793 ctgcttccacgcaaaaacagatgcgcgatcaacgatttgcagatgcgcgacac 852
 DB 724 ctgcttccacgcaaaaacagatgcgcgatcaacgatttgcagatgcgcgacac 783
 QY 853 aaagactatgcgcgacgacatccgcttgcagctcgaacccaacccaatgcgcgacaa 912
 DB 784 aaagactatgcgcgacgacatccgcttgcagctcgaacccaacccaatgcgcgacaa 843
 QY 913 ggcataaagcgttcagcaatatttatagcaagcatcccatcaaggatggaagct 972
 DB 844 ggcataaagcgttcagcaatatttatagcaagcatcccatcaaggatggaagct 903
 QY 973 gtcgggggaaataagcgttggcgagatcagcagcatccttcaagcgttcgagatg 1032
 DB 904 gtcgggggaaataagcgttggcgagatcagcagcatccttcaagcgttcgagatg 963
 QY 1033 ggcgcgttcgcatctgcgaagaaggaaatccgcgctcagcgacaaatttgcgattgcga 1092
 DB 964 ggcgcgttcgcatctgcgaagaaggaaatccgcgctcagcgacaaatttgcgattgcga 1023
 QY 1093 taagcgaataaccgctcccttaccatcccggaataatccgttcaacttggagcgagct 1152
 DB 1024 taagcgaataaccgctcccttaccatcccggaataatccgttcaacttggagcgagct 1083
 QY 1153 taagcgaataaccgctcccttaccatcccggaataatccgttcaacttggagcgagct 1212
 DB 1084 taagcgaataaccgctcccttaccatcccggaataatccgttcaacttggagcgagct 1143
 QY 1213 ctggcagacgaacgcaccccggaagacagcgcttgaaggttaaggttccgaat 1272
 DB 1144 ctggcagacgaacgcaccccggaagacagcgcttgaaggttaaggttccgaat 1203
 QY 1273 tttagaagacagctgaatatgatacg 1299
 DB 1204 tttagaagacagctgaatatgatacg 1230

RESULT 17
 AAD17053
 ID AAD17053 standard; DNA; 2256 BP.
 XX
 AC AAD17053;
 XX
 DT 29-NOV-2001 (first entry)
 XX
 DE N. meningitidis strain 2996 961c-ORF46.1 fusion DNA.
 XX
 KW Heterologous expression; Neisserial protein; open reading frame; ORF;
 KM 961c-ORF46.1 fusion protein; ds.
 XX
 OS Neisseria meningitidis 2996.
 XX
 FH Key Location/Qualifiers
 FT CDS 1..2256
 FT /product= "N. meningitidis strain 2996 961c-ORF46.1
 FT fusion protein"
 XX
 PN WO200164920-A2.

XX 07-SEP-2001.
PD
XX 28-FEB-2001; 2001WO-IB00420.
PF
XX 28-FEB-2000; 2000GB-0004695.
PR 13-NOV-2000; 2000GB-0027675.
XX
XX (CHIR-) CHIRON SPA.
PA
XX
PI Arico MB, Comanducci M, Galeotti C, Masignani V, Giuliani MM;
PI Pizza M;
XX
XX WPI; 2001-557776/62.
DR P-PSDB; AAE10038.
XX
XX Heterologous expression for the expression of two or more Neisserial
PT proteins in fused state
PS
XX Example 23; Page 29-30; 52pp; English.
PS
CC The present invention relates to a method for simultaneous heterologous
CC expression of two or more Neisserial proteins which are in a fused
CC state. The method is useful for simultaneous heterologous expression of
CC two or more Neisserial proteins. A protein that may be unstable or
CC poorly expressed on its own is assisted by adding a suitable hybrid
CC partner and commercial manufacture is simplified-only one expression and
CC purification need to be employed in order to produce two separately-
CC useful proteins. The present sequence is a DNA encoding
CC *Neisseria meningitidis* (serogroup B, strain 2996) 961c-ORF46.1
CC (open reading frame) fusion protein.
XX
SQ Sequence 2256 BP; 698 A; 608 C; 545 G; 405 T; 0 other;

Query Match 63.3%; Score 1194; DB 22; Length 2256;
Best Local Similarity 98.3%; Pred. No. 0;
Matches 1206; Conservative 0; Mismatches 21; Indels 0; Gaps 0;

QY 73 tcaagttggcaaacagccttatacggaggttcgcagcgttcagcattcgaacc 132
DB 1003 tcaagttggcaaacagccttatacggaggttcgcagcgttcagcattcgaacc 1062
QY 133 gacgggaaataccacctatcggcagcagggggagcttcgcnagcgaaagccatatac 192
DB 1063 gacgggaaataccacctatcggcagcagggggagcttcgcnagcgaaagccatatac 1122
QY 193 ggattgggaaacataaagccatcagttgggccaactgatgatcaagggcgcggt 252
DB 1123 ggattgggaaacataaagccatcagttgggccaactgatgatcaagggcgcggt 1182
QY 253 gaaggaaataccacctatcggcgttcgcagcgttcgcagcgttcgaattcgcgcc 312
DB 1183 gaaggaaataccacctatcggcgttcgcagcgttcgcagcgttcgaattcgcgcc 1242
QY 313 ttgcgaacaacatgctccatcgcgttcgatctgaacggcgtagtcccggtgaacgattc 372
DB 1243 ttgcgaacaacatgctccatcgcgttcgatctgaacggcgtagtcccggtgaacgattc 1302
QY 373 agccttaccgcatcattgggagcgagtaacacacatcccgcgacggtcatgaacgg 432
DB 1303 agccttaccgcatcattgggagcgagtaacacacatcccgcgacggtcatgaacgg 1362
QY 433 ccacagggcgcggtatcccgctcccaaaagcgagggatatacagctaacga 492
DB 1363 ccacagggcgcggtatcccgctcccaaaagcgagggatatacagctaacga 1422
QY 493 aaagcggttgcacaaatacgcctcaacctgaacccgacacccgacgacgaaacgg 552
DB 1423 aaagcggttgcacaaatacgcctcaacctgaacccgacacccgacgacgaaacgg 1482
QY 553 ctggcgacggtttccaaatgacggcgctatgctgaacgaaagatgagcgacgattc 612

DB 1483 ctggcgacggtttccaaatgacggcgctatgctgaacgaaagatgagcgacgattc 1542
QY 613 aaacgcccacccgatacagcccgcagctggaacagatcgggcaatccgcgcgaagccttc 672
DB 1543 aaacgcccacccgatacagcccgcagctggaacagatcgggcaatccgcgcgaagccttc 1602
QY 673 aaacgacctgacatcgtcaaaaacatcattcggcgcgacgaggaataattcgcgcga 732
DB 1603 aaacgacctgacatcgtcaaaaacatcattcggcgcgacgaggaataattcgcgcga 1662
QY 733 ggcgattgcgtgcaagggtataacgaaaggtcacaattgctctatgaacggttgg 792
DB 1663 ggcgattgcgtgcaagggtataacgaaaggtcacaattgctctatgaacggttgg 1722
QY 793 ctgcttccacgcaaaaacagatgcgcgcatcaacgatttgcagatagcgcaacc 852
DB 1723 ctgcttccacgcaaaaacagatgcgcgcatcaacgatttgcagatagcgcaacc 1782
QY 853 aaagactatgcccgaagcgcacatccgattggcgacgtcccaaaaccccaatgcccga 912
DB 1783 aaagactatgcccgaagcgcacatccgattggcgacgtcccaaaaccccaatgcccga 1842
QY 913 ggcataaagccgttcagcatatcttatgacgcatcccccataaaggtatgaact 972
DB 1843 ggcataaagccgttcagcatatcttatgacgcatcccccataaaggtatgaact 1902
QY 973 gtcggggaataacagcgttggcgcatcagcagacatccttcaagcggtcgcagatg 1032
DB 1903 gtcggggaataacagcgttggcgcatcagcagacatccttcaagcggtcgcagatg 1962
QY 1033 ggcgcgcatcgcatttgcgaaaggaaatccgcgcgttcagcgacaaatttgcgcgtgcga 1092
DB 1963 ggcgcgcatcgcatttgcgaaaggaaatccgcgcgttcagcgacaaatttgcgcgtgcga 2022
QY 1093 taagcaataaccggtccctaccatcccgaaataatccgttcaacttggagcagcgt 1152
DB 2023 taagcaataaccggtccctaccatcccgaaataatccgttcaacttggagcagcgt 2082
QY 1153 taagcaataaccggtccctaccatcccgaaataatccgttcaacttggagcagcgt 1212
DB 2083 taagcaataaccggtccctaccatcccgaaataatccgttcaacttggagcagcgt 2142
QY 1213 ctggcagacccaacgcccacccgaaagacgagtgatcgtttgacggtlaaaggtttcgaat 1272
DB 2143 ctggcagacccaacgcccacccgaaagacgagtgatcgtttgacggtlaaaggtttcgaat 2202
QY 1273 ttgagaagcagtgaaatatgatacg 1299
DB 2203 ttgagaagcagtgaaatatgatacg 2229

RESULT 18
AAS43895 standard; DNA; 2421 BP.
ID AAS43895;
XX AAS43895;
XX
XX 18-DEC-2001 (first entry)
XX
XX *Neisseria meningitidis* fusion protein ORF46.1-961 DNA.
DE
XX
XX *Neisseria gonorrhoeae*; leader peptide; fusion protein; ORF46.1; ds;
KM
XX
XX *Neisseria* protein.
OS
XX
XX *Neisseria meningitidis*.
OS
XX
XX Synthetic.
OS
XX
XX WO200164922-A2.
PN
XX
XX 07-SEP-2001.
PD
XX
XX 28-FEB-2001; 2001WO-IB00452.
XX

PI Arico MB, Comanducci M, Galeotti C, Masignani V, Giuliani MM;
PI Pizza M;
XX
XX
DR MPI: 2001-557776/62.
DR P-PSDB; ARI10033.
XX
XX

PT Heterologous expression for the expression of two or more Neisserial
PT proteins in fused state
XX
XX
PS

Example 23; Page 25; 52pp; English.

CC The present invention relates to a method for simultaneous heterologous
CC expression of two or more Neisserial proteins which are in a fused
CC state. The method is useful for simultaneous heterologous expression of
CC two or more Neisserial proteins. A protein that may be unstable or
CC poorly expressed on its own is assisted by adding a suitable hybrid
CC partner and commercial manufacture is simplified only one expression and
CC purification need to be employed in order to produce two separately-
CC useful proteins. The present sequence is a DNA encoding
CC Neisseria meningitidis (serogroup B, strain 2996) ORF46.1 (open
CC reading frame)-961 fusion protein.
XX
XX

SQ Sequence 2421 BP; 730 A; 659 C; 591 G; 441 T; 0 other;

Query Match 63.3%; Score 1194; DB 22; Length 2421;
Best Local Similarity 98.3%; Pred. No. 0;
Matches 1206; Conservative 0; Mismatches 21; Indels 0; Gaps 0;

QY 73 tcagattggcaaacagatcccttaccggaagttctcgacgcgcgaatttcgaacc 132
DB |||||||
DB 4 tcagattggcaaacagatcccttaccggaagttctcgacgcgcgaatttcgaacc 63
QY 133 ggcgggaataaccactatcgccaggggggagcttgcnaagcgaacggcatatc 192
DB |||||||
DB 64 ggcgggaataaccactatcgccaggggggagcttgcnaagcgaacggcatatc 123
QY 193 gatttgggaacaatacaaaagcatcagttggcgacacgtatgattcaagcgagcgt 252
DB |||||||
DB 124 gatttgggaacaatacaaaagcatcagttggcgacacgtatgattcaagcgagcgt 183
QY 253 gaaggaataatcggtacatgttcgcgttttcgcatacagggacaaattccatcgcc 312
DB |||||||
DB 184 aaagaaataatcggtacatgttcgcgttttcgcatacagggacaaattccatcgcc 243
QY 313 ttgcgaacacatcgctccatcttcgatttcggaagcgagtcgagtcggttgcgattc 372
DB |||||||
DB 244 ttgcgaacacatcgctccatcttcgatttcggaagcgagtcgagtcggttgcgattc 303
QY 373 agccttaccgcatcatcttggagcagatacgaacacatcccgccgacgctatgacgg 432
DB |||||||
DB 304 agccttaccgcatcatcttggagcagatacgaacacatcccgccgacgctatgacgg 363
QY 433 ccacagggcgcggtatcttcggtcccaaaagcgcgagggatataatacagtaagcata 492
DB |||||||
DB 364 ccacagggcgcggtatcttcggtcccaaaagcgcgagggatataatacagtaagcata 423
QY 493 aaaggggttggcccaaaataatcgctcccaacgtgacgcgaacacggacgcgaacacgg 552
DB |||||||
DB 424 aaaggggttggcccaaaataatcgctcccaacgtgacgcgaacacggacgcgaacacgg 483
QY 553 ctgtgcgacgcttccacaatgcccgcgtatgctgacgcgaagggatgagcgacgattc 612
DB |||||||
DB 484 ctgtgcgacgcttccacaatgcccgcgtatgctgacgcgaagggatgagcgacgattc 543
QY 613 aaagcgccaccccgatagcccgagctggaacagatcgggcaatgcccgcgaagccttc 672
DB |||||||
DB 544 aaagcgccaccccgatagcccgagctggaacagatcgggcaatgcccgcgaagccttc 603
QY 673 aaagcgccaccccgatagcttcaaaaacatcagcgcgcgaggaagaattgtcgcgca 732
DB |||||||
DB 604 aaagcgccaccccgatagcttcaaaaacatcagcgcgcgaggaagaattgtcgcgca 663

QY 733 ggcggtccgtgcagggatlaaagcgaaggtcaaacattgctgtcatgacgagcttgggt 792
DB |||||||
DB 664 ggcggtccgtgcagggatlaaagcgaaggtcaaacattgctgtcatgacgagcttgggt 723
QY 793 ctgcttccacgcgaaaaagaatggtcgcgcatcaagatttgcagatagtgagcaacc 852
DB |||||||
DB 724 ctgcttccacgcgaaaaagaatggtcgcgcatcaagatttgcagatagtgagcaacc 783
QY 853 aaagactatccgcgagcagcatccggttggcgaaatcccaaaccccaatgcccagca 912
DB |||||||
DB 784 aaagactatccgcgagcagcatccggttggcgaaatcccaaaccccaatgcccagca 843
QY 913 ggcataaagccgtcagcaaatatcttattatgacgacatccccaacaaaggattgagct 972
DB |||||||
DB 844 ggcataaagccgtcagcaaatatcttattatgacgacatccccaacaaaggattgagct 903
QY 973 gtcgggggaaatcaggttgcgttggcgagatagggacatcccttcaagcggttcgagatg 1032
DB |||||||
DB 904 gtcgggggaaatcaggttgcgttggcgagatagggacatcccttcaagcggttcgagatg 963
QY 1033 ggcggtccgtgcagggatlaaagcgaaggtcaaacattgctgtcatgacgagcttgggt 1092
DB |||||||
DB 964 ggcggtccgtgcagggatlaaagcgaaggtcaaacattgctgtcatgacgagcttgggt 1023
QY 1093 tacgccaataaccgcttcccttaccatcccggaataatccgttcaaaacttggagcagcgt 1152
DB |||||||
DB 1024 tacgccaataaccgcttcccttaccatcccggaataatccgttcaaaacttggagcagcgt 1083
QY 1153 tacgccaataaccgcttcccttaccatcccggaataatccgttcaaaacttggagcagcgt 1212
DB |||||||
DB 1084 tacgccaataaccgcttcccttaccatcccggaataatccgttcaaaacttggagcagcgt 1143
QY 1213 ctggcagacccaagccaccccggaagcagcgatcaggttgcaggtlaaagggttccgaaat 1272
DB |||||||
DB 1144 ctggcagacccaagccaccccggaagcagcgatcaggttgcaggtlaaagggttccgaaat 1203
QY 1273 ttgagaagcagctgaaatagatagc 1299
DB |||||||
DB 1204 ttgagaagcagctgaaatagatagc 1230

RESULT 21
AAD17050
ID AAD17050 standard; DNA; 2421 BP.
XX
AC AAD17050;
XX
DT 29-NOV-2001 (first entry)
XX
DE N. meningitidis strain 2996 961-ORF46.1 fusion DNA.
XX
KW Heterologous expression; Neisserial protein; open reading frame; ORF;
KW 961-ORF46.1 fusion protein; ds.
XX
OS Neisseria meningitidis 2996.
XX
FH Key location/Qualifiers
FT CDS 1..2421
FT /tag= a
FT /product= "N. meningitidis strain 2996 961-ORF46.1
FT fusion protein"
XX
PD WO200164920-A2.
XX
PD 07-SEP-2001.
XX
XX 28-FEB-2001; 2001WO-IB00420.
XX
XX 28-FEB-2000; 2000GB-0004695.
XX
PR 13-NOV-2000; 2000GB-0027675.
XX
XX (CHIR-) CHIRON SPA.
XX

PI Arico MB, Comanducci M, Galeotti C, Masignani V, Giuliani MM;
PI Pizza M;
XX
XX
DR WPI: 2001-557776/62.
P-PSDB; AAE10035.

PT Heterologous expression for the expression of two or more Neisserial
XX proteins in fused state
XX
XX
PS Example 23; Page 27; 52pp; English.

CC The present invention relates to a method for simultaneous heterologous
CC expression of two or more Neisserial proteins which are in a fused
CC state. The method is useful for simultaneous heterologous expression of
CC two or more Neisserial proteins. A protein that may be unstable or
CC poorly expressed on its own is assisted by adding a suitable hybrid
CC partner and commercial manufacture is simplified only one expression and
CC purification need to be employed in order to produce two separately-
CC useful proteins. The present sequence is a DNA encoding
CC Neisseria meningitidis (serogroup B, strain 2996) 961-ORF46.1
CC (open reading frame) fusion protein.
XX

SO Sequence 2421 BP; 730 A; 659 C; 591 G; 441 T; 0 other;

Query Match 63.3%; Score 1194; DB 22; Length 2421;
Best Local Similarity 98.3%; Pred. No. 0;
Matches 1206; Conservative 0; Mismatches 21; Indels 0; Gaps 0;

QY 73 tcaagattggcaaacagatcccttaccgagagttctcgacgctcagcatcttgcgaacc 132
DB 1168 tcaagattggcaaacagatcccttaccgagagttctcgacgctcagcatcttgcgaacc 1227
QY 133 gacggaataaccacattctggcagcaggggagcgttcgcnagcgcaagggccatattc 192
DB 1228 gacggaataaccacattctggcagcaggggagcgttcgcnagcgcaagggccatattc 1287
QY 193 ggaattggaaaacatacaagcattcagttggcaccatgatattcaacaagcgcgccgtt 252
DB 1288 ggaattggaaaacatacaagcattcagttggcaccatgatattcaacaagcgcgccgtt 1347
QY 253 gaaggaataatcgcgtataatgtccgcttctcgacatcagggcacaattccattccgcc 312
DB 1348 aaaggaataatcgcgtataatgtccgcttctcgacatcagggcacaattccattccgcc 1407
QY 313 ttcgacaaccatgctccatcattcgattctgacgaagcggttaactcgttgaagcattc 372
DB 1408 ttcgacaaccatgctccatcattcgattctgacgaagcggttaactcgttgaagcattc 1467
QY 373 agccttaaccgcatcattctggagcagatcgaacacatcccgccgacgctatgacgg 432
DB 1468 agccttaaccgcatcattctggagcagatcgaacacatcccgccgacgctatgacgg 1527
QY 433 ccacaagggcgcgctatccgctcccaaaagcgcgagggatataatacagctacgacata 492
DB 1528 ccacaagggcgcgctatccgctcccaaaagcgcgagggatataatacagctacgacata 1587
QY 493 aaagggcgttggcccaaaatatacgcctcaacctgacgacacaacggcagcgacaacgg 552
DB 1588 aaagggcgttggcccaaaatatacgcctcaacctgacgacacaacggcagcgacaacgg 1647
QY 553 ctctcgacacgcttccacaatctgcggcgctatgtctgacgcaagagtagcgaagcttc 612
DB 1648 ctctcgacacgcttccacaatctgcggcgctatgtctgacgcaagagtagcgaagcttc 1707
QY 613 aaacggcgccaccgatacagcccgagctgacacagatcgggcaatgcccgcgaagcttc 672
DB 1708 aaacggcgccaccgatacagcccgagctgacacagatcgggcaatgcccgcgaagcttc 1767
QY 673 aacggcactgcagatcgttcaaaaacatcagcgcgcgcaagagaaattgttcggcga 732
DB 1768 aacggcactgcagatcgttcaaaaacatcagcgcgcgcaagagaaattgttcggcga 1827

QY 733 ggcgattcgctgtgacgggtataaagcgaagcctcaaatgtctctcatcagcgcttgggt 792
DB 1828 ggcgattcgctgtgacgggtataaagcgaagcctcaaatgtctctcatcagcgcttgggt 1887
QY 793 ctgtctccacgcaaaaacagatggcgcgcatcaacgatttggcaatgtgcgaacc 852
DB 1888 ctgtctccacgcaaaaacagatggcgcgcatcaacgatttggcaatgtgcgaacc 1947
QY 853 aaagactatgcgcaagcagccatcccgatctggcgacgtcccaaaaccccaatgcgcacaa 912
DB 1948 aaagactatgcgcaagcagccatcccgatctggcgacgtcccaaaaccccaatgcgcacaa 2007
QY 913 ggaatgaacgcgttcgcaatattcttattggcagcattcccatcaaaaggtattgagct 972
DB 2008 ggaatgaacgcgttcgcaatattcttattggcagcattcccatcaaaaggtattgagct 2067
QY 973 gtcggggaaaatacagcgttggcgcgcatcagcgacatccctgtcaagcggtcgcagatg 1032
DB 2068 gtcggggaaaatacagcgttggcgcgcatcagcgacatccctgtcaagcggtcgcagatg 2127
QY 1033 ggcgcgactgcgcatctgcgcaaaaggaaatccgcgcgcaagcaatttgcgattgcgca 1092
DB 2128 ggcgcgactgcgcatctgcgcaaaaggaaatccgcgcgcaagcaatttgcgattgcgca 2187
QY 1093 tacgcgaataaccgctcccttaccatctccggaatatccgttcaacttggagcagcgt 1152
DB 2188 tacgcgaataaccgctcccttaccatctccggaatatccgttcaacttggagcagcgt 2247
QY 1153 tacgcgaataaccgctcccttaccatctccggaatatccgttcaacttggagcagcgt 1212
DB 2248 tacgcgaataaccgctcccttaccatctccggaatatccgttcaacttggagcagcgt 2307
QY 1213 ctggcagaccacagccaccccggaagcagcgctacgcttgaagcgttaaggggttcggaat 1272
DB 2308 ctggcagaccacagccaccccggaagcagcgctacgcttgaagcgttaaggggttcggaat 2367
QY 1273 ttgagaagcagctgaataatgatacg 1299
DB 2368 ttgagaagcagctgaataatgatacg 2394

RESULT 22
AAA81489
ID AAA81489 standard; DNA; 837096 BP.
XX
AC AAA81489;
XX
DT 04-DEC-2000 (first entry)
XX
DE N. meningitidis partial DNA sequence gnm_37 SEQ ID NO:37.
XX
KW Neisseria meningitidis; Neisseria gonorrhoeae; genome; immunogenic;
KW antigen; vaccine; diagnosis; infection; antibacterial; identification;
XX Meningococcus B; MenB; ds.
OS Neisseria meningitidis.
XX
PN MO200022430-A2.
XX
PD 20-APR-2000.
XX
PF 08-OCT-1999; 99WO-US23573.
XX
PR 09-OCT-1998; 98US-0103794.
XX
PR 30-APR-1999; 99US-0132068.
XX
PA (CHIR) CHIRON CORP.
XX
PI Frazer CM, Hickey E, Peterson J, Tettelin H, Venter JC;
PI Masignani V, Galeotti C, Mora M, Ratti G, Scarfelli M, Scarlato V;
PI Rappelli R, Pizza M;
XX
WPI: 2000-318079/27.

XX Sequence 683 BP; 176 A; 202 C; 171 G; 131 T; 3 other;
SQ

Query Match 34.1%; Score 642.8; DB 20; Length 683;
Best Local Similarity 96.0%; Pred. No. 6e-187;
Matches 656; Conservative 1; Mismatches 26; Indels 0; Gaps 0;

QY 43 gcaagtgctccgcagatcagacacgctcagattggcaaacgctcccttaccg 102
DB 1 gcaatgtgctccnccgagtcagacacgctccanattggcaaacgctcccttaccg 60
QY 103 caggttcgcagcgtcagcatttcgaaccgagcggaataaccacatttcgcagcag 162
DB 61 caggttcgcagcgtcagcatttcgaaccgagcggaataaccacatttcgcagcag 120
QY 163 gggagcttcgcnagcgcaacggccatctcgattgggaataacataaagccatcagttg 222
DB 121 gggagcttcgcnagcgcgcaatctcatttcgattgggaataacataaagccatcagttg 180
QY 223 ggcacccatgatcacaacgagcgccgttgaaggaataatcgctacattgtccgcttt 282
DB 181 ggcacccatgatcacaacgagcgccatcacaaggaataatcgctacattgtccgcttt 240
QY 283 tcgatcaaggagcaacaattccattgccttcgacaaacatgctccacattccgattct 342
DB 241 tcgatcaaggagcaagaagtcacattcccttcgacaaacatgctccacattccgattct 300
QY 343 gacgagcgcgtagtcccggttgagcgattcgcttaccgacatttggaagcagatc 402
DB 301 gatgaagcggttagtcccggttgagcgattcgcttaccgacatttggaagcagatc 360
QY 403 gaacacccatcccgcaagcgatcagcgagcgacagggcgcgctatcccgccccaac 462
DB 361 gaacacccatcccgcaagcgatcagcgagcgacagggcgcgctatcccgccccaac 420
QY 463 ggcgcgagggatatacagctacagacataaaggcgcttgcaccaaatatccgctaac 522
DB 421 ggcgcgagggatatacagctacagacataaaggcgcttgcaccaaatatccgctaac 480
QY 523 ctgacggcaaacgcgagacggcggaacaggcttgcgacccgttccacaatagcgcgct 582
DB 481 ctgacggcaaacgcgagacggcggaacaggcttgcgacccgttccacaatagcgcgct 540
QY 583 atgctgaagcaaggtgagcgacgattcaaacgcgcacccgatacagcccgagctg 642
DB 541 atgctgaagcaaggtgagcgacgattcaaacgcgcacccgatacagcccgagctg 600
QY 643 gacagatcgggcaatgcccgcgaagccttcaacgagcactgagatgctcaaaaacatc 702
DB 601 gacagatcgggcaatgcccgcgaagccttcaacgagcactgagatgctcaaaaacatc 660
QY 703 atcgcgcgcgagagagaattgt 725
DB 661 atcgcgcgcgagagagaattgt 683

RESULT 24

AAA81504/c
ID AAA81504 standard; DNA; 684 BP.

AAA81504;

DT 04-DEC-2000 (first entry)

DE N. meningitidis partial DNA sequence gum_51 SEQ ID NO:51.

XX Neisseria meningitidis; Neisseria gonorrhoeae; genome; immunogenic;

KW antigen; vaccine; diagnosis; infection; antibacterial; identification;

XX Meningococcus B; MenB; ds.

OS Neisseria meningitidis.

PN WO200022430-A2.

PD 20-APR-2000.

PF 08-OCT-1999; 99WO-US23573.

XX 09-OCT-1998; 98US-0103794.

PR 30-APR-1999; 99US-0132068.

XX (CHIR) CHIRON CORP.

PI Frazier CM, Hickey E, Peterson J, Tettelin H, Venter JC;
PI Maslynah V, Galeotti C, Mora M, Ratti G, Scarselli M, Scarlato V;
PI Rappoli R, Pizzo M;

DR WPI; 2000-318079/27.

PT Isolated nucleotide sequences of Neisseria meningitidis which can be
PT used in the diagnosis and treatment of N. meningitidis infection and
PT other Neisserial infections, for example, N.gonorrhoea -

PS Claim 7; Page 1351; 1760pp; English.

XX The present invention describes methods of obtaining immunogenic
CC proteins from Neisseria genomic sequences. AAA81453 to AAA82414
CC represent specifically claimed Neisseria meningitidis genomic DNA
CC sequences; AAA81260 to AAA81303 and AAB25620 to AAB25663 represent
CC Neisseria DNA sequences and their corresponding proteins; AAA81254 to
CC AAA81259 and AAA81304 to AAA81321 represent PCR primers used in the
CC isolation of Neisseria meningitidis DNA sequences; and AAA81322 to
CC AAA81452 represent Neisseria meningitidis MenB polynucleotide ORF
CC sequences, which are all used in the exemplification of the present
CC invention. The nucleic acid sequences, protein sequences, and antibodies
CC against them, can be used in the manufacture of a composition. The
CC composition can be used as a medicament (or in the manufacture of a
CC medicament) for treating, preventing or diagnosing infection due to
CC Neisserial bacteria. For example, some of the identified proteins could
CC be components of vaccines against Meningococcus B; against all serotypes;
CC and/or against all pathogenic Neisseriae. Identification of sequences
CC from the bacterium will also facilitate production of biological probes,
CC particularly organism-specific probes. Attempts to make efficacious
CC Meningococcus B vaccines have failed mainly due to antigen tolerance.
CC Multivalent vaccines have also been tried but none have successfully
CC overcome antigenic variability. The provision of further, complete
CC sequences may provide an opportunity to identify secreted or surface
CC exposed proteins that may be presumed targets for the immune system and
CC which are not antigenically variable or at least more conserved than
CC other more variable regions.

SQ Sequence 684 BP; 129 A; 175 C; 203 G; 176 T; 1 other;

Query Match

Best Local Similarity 34.0%; Score 641.8; DB 21; Length 684;
Matches 663; Conservative 1; Mismatches 19; Indels 1; Gaps 1;

QY 43 gcaatgtgctccgcagatcagacacgctcagattggcaaacgctcccttaccg 102
DB 684 gcaatgtgctccgcagatcagacacgctcagattggcaaacgctcccttaccg 625
QY 103 caggttcgcagcgtcagcatttcgaaccgagcggaataaccacatttcgcagcag 162
DB 624 caggttcgcagcgtcagcatttcgaaccgagcggaataaccacatttcgcagcag 565
QY 163 gggagcttcgcnagcgca-acggccatctcgattgggaataacataaagccatcagtt 221
DB 564 GCGGAACCTGCGCAGCGCAGCGATTCGATTCGGAATAAATCAAGCCATCAGTT 505
QY 222 ggcgcacccatgatcacaacgagcgccgttgaaggaataatcgctacattgtccgctt 281
DB 504 GGGCAACCTGATGATTCACAGCGGCATTTAAAGGAATATTCGCTACATTCGCGCTT 445
QY 282 ttcgatcaaggagcaacaattccattgccttcgacacacatgctccacattccgattc 341

|||||
Db 444 TTCCGATTCACGGGCAAGAGTCATCCCTTCGACAAACATGCTCATTCGATTC 385
OY 342 ttaagaagccggtagtccttgacggatcttcacgttcacgttcgagagata 401
Db 384 TGTATGAAGCCGGTAGTCCGTTGACGAGATTAGCCTTTACCCCATTCATGGACGATA 325
OY 402 cgaacacccatcccgccgaagcgtatgaacggcgcacagggcggcgtatccgcctccaa 461
Db 324 CGAAGCATTCGCCCGGACGGCTATGACGGGGCCACAGGGCGGCGCTATCCGGCTCCAA 265
OY 462 aggcgcgagagatatacagctacgaataaaggcggttcgcaaatatccgcttaa 521
Db 264 AGCGCGAGGAGTATATACGCTACGACATTAAGCGCGTTCGCAAAATATCCGCTCAA 205
OY 522 cctgaacccgaaccccgacgacccggaacgggttcgacggttcgcaaatgcccggcg 581
Db 204 CCTGACCCGACACCGACGACCGGACACGCTTCGCGACGCTTTCACAAATGCGGTAG 145
OY 582 tatgtctgaacgaaggatgaagcgaacgtatcaaacgcgcacacgatalacgcccgaat 641
Db 144 TATGCTGACGCAAGAGTAGTGCGGACGAGATTCAACGGCGGACCGATACAGCCCGAGCT 85
OY 642 ggaacagatcggcgaatgcgcgcgaagccttcaagcgacgtcagatcgtcaaaaacat 701
Db 84 GGACAGATGGGCAATGCGCGCAAGCCTTCAACGGCACTGAGATATCGTTAAAAACAT 25
OY 702 catcgcgcgcgagagaattgt 725
Db 24 CATCGGCGCTGCAGAGAAATTGT 1

RESULT 25
AAZ54162/C
ID AAZ54162 standard; DNA; 396 BP.
XX
AC AAZ54162;
XX
DT 21-MAR-2000 (first entry)
XX
DE Neisseria gonorrhoeae ORF 686 partial DNA sequence SEQ ID NO:2273.
XX
KW Neisseria meningitidis; Neisseria gonorrhoeae; antigen; vaccine;
KM antigenic; diagnosis; immunogenic; infection; meningitis; septicaemia;
KW antibacterial; gene therapy; ds.
XX
OS Neisseria gonorrhoeae.
XX
PN WO957280-A2.
XX
PD 11-NOV-1999.
XX
PF 30-APR-1999; 99WO-US09346.
XX
PR 01-MAY-1998; 98US-0083758.
PR 31-JUL-1998; 98US-0094869.
PR 02-SEP-1998; 98US-0098994.
PR 02-SEP-1998; 98US-0099062.
PR 09-OCT-1998; 98US-0103749.
PR 09-OCT-1998; 98US-0103794.
PR 09-OCT-1998; 98US-0103796.
PR 25-FEB-1999; 99US-0121528.
XX
XX (CHIR) CHIRON CORP.
PA (GENO-) INST GENOMIC RES.
XX
XX Fraser C, Galeotti C, Grandi G, Hickey E, Masignani V, Mora M,
PI Petersen J, Pizzo M, Rappuoli R, Ratti G, Scalato E, Scarselli M,
PI Tettelin H, Venter JC;
XX
DR WPI: 2000-062150/05.
XX P-PSDB: AAY75400.
XX

PT Novel Neisserial polypeptides predicted to be useful antigens for
PT vaccines and diagnostics
XX
PS Claim 7; Page 1100; 1453pp; English.
XX
CC AAZ53015 to AAZ54536, AAZ54577 to AAZ54615, and AAY74253 to AAY75941
CC represent novel Neisseria meningitidis and N. gonorrhoeae polynucleotides
CC and polypeptides. AAZ54537 to AAZ54576 and AAZ54616 to AAZ5473 represent
CC PCR primers used in the exemplification of the present invention. The
CC polypeptides, the polynucleotides, antibodies and compositions of
CC the invention can be used as vaccines, as diagnostic reagents, and as
CC immunogenic compositions. The polypeptides can be used in the
CC manufacture of medicaments for treating or preventing infection due to
CC Neisserial bacteria (e.g. meningitis and septicemia), to detect the
CC presence of Neisseria bacteria, or to raise antibodies. They may also
CC be used to screen for agonists or antagonists, which may themselves
CC have use as antibacterial agents. The polynucleotides of the invention
CC may also be used in gene therapy protocols.
XX
SQ Sequence 396 BP; 62 A; 104 C; 127 G; 103 T; 0 other;

Query Match 21.0%; Score 396; DB 21; Length 396;
Best Local Similarity 100.0%; Pred. No. 3,4e-11;
Matches 396; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 328 tcaattccgattctgaacgaagcggtagtccttgacggattcagccttiacgcac 387
Db 396 TCAATTCCGATTCTGACGAAGCCGGTAGTCCGTTGACGAGATTCAAGCCTTACCGCATC 337
OY 388 catlyggacgatalacgacacacatcccgacgacgctatgaacggcgcacgaagcgcgagc 447
Db 336 CATTGAGGAGATACGAACACCATCCCGCGACGCTATGACGCGGACACAGGGCGGCGAG 277
OY 448 tatccgctcccaagcgcgagagatatatacgtctacgactaaaggcggttgcacaa 507
Db 276 TATCCGCTCCCAAGGCGGAGGATATATACGCTACGACATTAAGAGCGTTGCCCAA 217
OY 508 aatalccgctcaacccgacgacgaacccgacgacccggaacagcgttcgcgacgttc 567
Db 216 AATATCGCGCTCAACCTGACGACGACCAACCGGACGAGCAAGCGGTTGCCGACGCTTTC 157
OY 568 cacaatgcggcgctatgtctgaacgaagatgagcgaagcgttcaaacgcgccacgca 627
Db 156 CACAATGCGCGCGCTATGCTGACGCAAGGAGTAGGCGACGAGATTCAACGCGCCACCGCA 97
OY 628 tacagcccgagctggaacagatcgggcaatgcgcgaacgcttcaacggaactgagat 687
Db 96 TACAGCCCGAGCTGGACAGATCGGGCAATGCCGGAAGCCTTCAACGGCACTGCGAGAT 37
OY 688 atcgtcaaaaacatcatcgcgcgcgcagagaatt 723
Db 36 ATCGTCAAAAAACATCATCGCGCGCGGACGAGAAATT 1

RESULT 26
AAZ54163/C
ID AAZ54163 standard; DNA; 492 BP.
XX
AC AAZ54163;
XX
DT 21-MAR-2000 (first entry)
XX
DE Neisseria meningitidis ORF 686 partial DNA sequence SEQ ID NO:2275.
XX
KW Neisseria meningitidis; Neisseria gonorrhoeae; antigen; vaccine;
KM antigenic; diagnosis; immunogenic; infection; meningitis; septicaemia;
KW antibacterial; gene therapy; ds.
XX
OS Neisseria meningitidis.
XX
XX
XX WO957280-A2.
XX
XX

PD 11-NOV-1999.
XX 30-APR-1999; 99WO-US09346.
XX 01-MAY-1998; 98US-0083758.
PR 31-JUL-1998; 98US-0094869.
PR 02-SEP-1998; 98US-0098994.
PR 02-SEP-1998; 98US-0099062.
PR 09-OCT-1998; 98US-0103749.
PR 09-OCT-1998; 98US-0103794.
PR 09-OCT-1998; 98US-0103796.
PR 25-FEB-1999; 99US-0121528.
XX (CHIR) CHIRON CORP.
PA (GENO-) INST GENOMIC RES.
PI Fraser C, Galeotti C, Grandi G, Hickey E, Masignani V, Mora M,
PI Petersen J, Pizsa M, Rappuoli R, Ratti G, Scalato E, Scarselli M,
PI Tettelin H, Venter JC;
XX WPI: 2000-062150/05.
DR P-PSDB: AAY75401.
XX Novel Neisserial polypeptides predicted to be useful antigens for
PT vaccines and diagnostics -
XX Claim 7; Page 1101; 1453pp; English.
XX AA553015 to AA254536, AA254577 to AA254615, and AAY74253 to AAY75941
CC represent novel *Neisseria meningitidis* and *N. gonorrhoeae* polynucleotides
CC and polypeptides. AA254537 to AA254576 and AA254616 to AA25473 represent
CC PCR primers used in the exemplification of the present invention. The
CC polypeptides, the polynucleotides, antibodies and compositions of
CC the invention can be used as vaccines, as diagnostic reagents, and as
CC immunogenic compositions. The polypeptides can be used in the
CC manufacture of medicaments for treating or preventing infection due to
CC *Neisserial bacteria* (e.g. meningitis and septicemia), to detect the
CC presence of *Neisseria bacteria*, or to raise antibodies. They may also
CC be used to screen for agonists or antagonists, which may themselves
CC have use as antibacterial agents. The polynucleotides of the invention
CC may also be used in gene therapy protocols.
XX
XX
SQ Sequence 492 BP; 82 A; 120 C; 154 G; 124 T; 12 other;
Query Match 20.4%; Score 385.4; DB 21; Length 492;
Best Local Similarity 94.5%; Pred. No. 7e-108;
Matches 392; Conservative 0; Mismatches 23; Indels 0; Gaps 0;

OY 688 atcgtcaaaacatcatcgcgcgagagagaatgtcgcgcagcgatccg 742
Db 132 ATCGTTAAAAACATCATCGCGCTCGCAGAGAAATNNNNNNNNNNCGCTCCG 78
RESULT 27
AA254164/c
ID AA254164 standard; DNA; 396 BP.
XX
AC AA254164;
XX
DT 21-MAR-2000 (first entry)
XX
XX *Neisseria meningitidis* ORF 686 partial DNA sequence SEQ ID NO:2277.
DE
XX
XX *Neisseria meningitidis*; *Neisseria gonorrhoeae*; antigen; vaccine;
KW antigenic; diagnosis; immunogenic; infection; meningitis; septicemia;
KW antibacterial; gene therapy; ds.
XX
XX *Neisseria meningitidis*.
OS
XX
XX W0957280-A2.
PN
XX 11-NOV-1999.
PD
XX 30-APR-1999; 99WO-US09346.
PF
XX
XX 01-MAY-1998; 98US-0083758.
PR 31-JUL-1998; 98US-0094869.
PR 02-SEP-1998; 98US-0098994.
PR 02-SEP-1998; 98US-0099062.
PR 09-OCT-1998; 98US-0103749.
PR 09-OCT-1998; 98US-0103794.
PR 09-OCT-1998; 98US-0103796.
PR 25-FEB-1999; 99US-0121528.
XX
XX (CHIR) CHIRON CORP.
PA (GENO-) INST GENOMIC RES.
PI Fraser C, Galeotti C, Grandi G, Hickey E, Masignani V, Mora M,
PI Petersen J, Pizsa M, Rappuoli R, Ratti G, Scalato E, Scarselli M,
PI Tettelin H, Venter JC;
XX WPI: 2000-062150/05.
DR P-PSDB: AAY75402.
XX
XX Novel Neisserial polypeptides predicted to be useful antigens for
PT vaccines and diagnostics -
XX Claim 7; Page 1101; 1453pp; English.
XX AA253015 to AA254536, AA254577 to AA254615, and AAY74253 to AAY75941
CC represent novel *Neisseria meningitidis* and *N. gonorrhoeae* polynucleotides
CC and polypeptides. AA254537 to AA254576 and AA254616 to AA25473 represent
CC PCR primers used in the exemplification of the present invention. The
CC polypeptides, the polynucleotides, antibodies and compositions of
CC the invention can be used as vaccines, as diagnostic reagents, and as
CC immunogenic compositions. The polypeptides can be used in the
CC manufacture of medicaments for treating or preventing infection due to
CC *Neisserial bacteria* (e.g. meningitis and septicemia), to detect the
CC presence of *Neisseria bacteria*, or to raise antibodies. They may also
CC be used to screen for agonists or antagonists, which may themselves
CC have use as antibacterial agents. The polynucleotides of the invention
CC may also be used in gene therapy protocols.
XX
SQ Sequence 396 BP; 66 A; 103 C; 122 G; 105 T; 0 other;
Query Match 20.4%; Score 384.8; DB 21; Length 396;
Best Local Similarity 98.2%; Pred. No. 9.4e-108;
Matches 389; Conservative 0; Mismatches 7; Indels 0; Gaps 0;

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|||||
Db 396 TCACATTCGATTCGATGAAACCCGGTGTCCCGTTGACGATTCAGCTTACCGCATC 337
QY 388 cgttggagaggtatgaacacatcccgcgagctatgtaggccacagggcgagc 447
Db 336 CATTGGACGATACGAACACATCCCGCGAGGCTTGTGACGGGCGCACAGGCGCGC 277
QY 448 tatccgctcccaagggcgagggatatacagctacagacataaaggcgctgccaa 507
Db 276 TATCCCGCTCCCAAGAGCGCGGAGATATATACCTTACGATTAAGAGCGTTCCCAA 217
QY 508 aatattcgctcaacctgacgcagacaacgcgacgcgagcaaacggcttgcgacgcttc 567
Db 216 AATATCCGCTCAACCTGACCTGACCAACCGCACACCGGACCAACGGGCTTGTGACCGCTTTC 157
QY 568 caaatacgcgagctatgtgtgaaggaagatagcgagcttaaaagcgccacccga 627
Db 156 CACATATCCGATGATGTGCTGACGCAAGGAGTAGGCGAGGATTAACAGCGCCACCCGA 97
QY 628 tacagcccgagctgagacagatcgggcaatgcccgcgaagccttcaacgctgacagat 687
Db 96 TACAGCCCGAGCTGGACAGATCGGGCAATGCCGCGAAGCTTCAACGGGACCTGCATAT 37
QY 688 atcgtcaaaaacatcatcgcgcgaggaagaatt 723
Db 36 ATCTCTCAAAAACATCATCTCGCGCGGACGAGAAATT 1

RESULT 28
AAA81377
ID AAA81377 standard; DNA: 380 BP.
XX
AC AAA81377;
XX
DE 04-DEC-2000 (first entry)
XX
DE N. meningitidis MenB polynucleotide sequence ORF number 54.
XX
KW Neisseria meningitidis; Neisseria gonorrhoeae; genome; immunogenic;
KW antigen; vaccine; diagnosis; infection; antibacterial; identification;
KW Meningococcus B; MenB; ds.
XX
OS Neisseria meningitidis.
XX
PN WO200022430-A2.
XX
PD 20-APR-2000.
XX
PF 08-OCT-1999; 99WO-US23573.
XX
PR 09-OCT-1998; 98US-0103794.
XX
PR 30-APR-1999; 99US-0132068.
XX
PA (CHTR ) CHIRON CORP.
XX
PI Frazer CM, Hickey E, Peterson J, Tettelin H, Venter JC,
PI Masignani V, Galeotti C, Mora M, Ratti G, Scarselli M, Scarlato V;
PI Rappuoli R, Pizza M;
XX
DR WPI: 2000-318079/27.
XX
XX Isolated nucleotide sequences of Neisseria meningitidis which can be
XX used in the diagnosis and treatment of N. meningitidis infection and
XX other Neisseria infections, for example, N.gonorrhoea -
XX
PS Disclosure: Page 213; 1760pp; English.
XX
XX The present invention describes methods of obtaining immunogenic
XX proteins from Neisseria genomic sequences. AAA81453 to AAA82414
XX represent specifically claimed Neisseria meningitidis genomic DNA
XX sequences; AAA81260 to AAA81303 and AAB25620 to AAB25663 represent
XX Neisseria DNA sequences and their corresponding proteins; AAA81254 to
XX AAA81259 and AAA81304 to AAA81321 represent PCR primers used in the

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CC Isolation of Neisseria meningitidis DNA sequences; and AAA81322 to
CC AAA81452 represent Neisseria meningitidis MenB polynucleotide ORF
CC sequences, which are all used in the exemplification of the present
CC invention. The nucleic acid sequences, protein sequences, and antibodies
CC against them, can be used in the manufacture of a composition. The
CC composition can be used as a medicament (or in the manufacture of a
CC medicament) for treating, preventing or diagnosing infection due to
CC Neisserial bacteria. For example, some of the identified proteins could
CC be components of vaccines against Meningococcus B; against all serotypes;
CC and/or against all pathogenic Neisseriae. Identification of sequences
CC from the bacterium will also facilitate production of biological probes,
CC particularly organism-specific probes. Attempts to make efficacious
CC Meningococcus B vaccines have failed mainly due to antigen tolerance.
CC Multivalent vaccines have also been tried but none have successfully
CC overcome antigenic variability. The provision of further, complete
CC sequences may provide an opportunity to identify secreted or surface
CC exposed proteins that may be presumed targets for the immune system and
CC which are not antigenically variable or at least more conserved than
CC other more variable regions.
XX
XX Sequence 380 BP; 127 A; 54 C; 108 G; 90 T; 1 other;
XX

Query Match 17.7%; Score 333.4; DB 21; Length 380;
Best Local Similarity 99.4%; Pred. No. 5,9e-92;
Matches 334; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1320 atcggggggcggtataccctaaagcctgctgtgtgtagtgcgaacagatggaggt 1379
Db 45 atcggggggcggtataccctaaagcctgctgtgtgtagtgcgaacagatggaggt 104
QY 1380 tgataggaagcttaataattgacaactcgtgacaggttgagaaataatgttcaagaaac 1439
Db 105 tgataggaagcttaataattgacaactcgtgacaggttgagaaataatgttcaagaaac 164
QY 1440 gagagaagaagatcaggtgtcagtttaagcccatgycgacagatgggaaataa 1499
Db 165 gagagaagaagatcaggtgtcagtttaagcccatgycgacagatgggaaataa 224
QY 1500 aacagggttgaattatcatcttattaggtgtgtatatacaataagaaagcagaatac 1559
Db 225 aacagggttgaattatcatcttattaggtgtgtatatacaataagaaagcagaatac 284
QY 1560 aggaaggacatagtcaccccggtgtgatacgggtgatacaacaacactcggacactga 1619
Db 285 aggaaggacatagtcaccccggtgtgatacgggtgatacaacaacactcggacactga 344
QY 1620 taacatggggtttatcaagcagacgtggaattaa 1655
Db 345 taacatggggtttatcaagcagacgtggaattaa 380

RESULT 29
AAZ12171
ID AAZ12171 standard; DNA: 381 BP.
XX
AC AAZ12171;
XX
DE 08-OCT-1999 (first entry)
XX
DE Neisseria meningitidis partial ORF46 sequence.
XX
KW Neisseria meningitidis; Neisseria gonorrhoeae; antigen; vaccine;
KW treatment; Neisseria infection; meningitis; septicemia; gonorrhea; ss.
XX
OS Neisseria meningitidis.
XX
PN WO924578-A2.
XX
PD 20-MAY-1999.
XX
PR 09-OCT-1998; 98WO-IB01665.
XX

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PR 01-SEP-1998; 98GB-0019016.
 PR 06-NOV-1997; 97GB-0023516.
 PR 14-NOV-1997; 97GB-0024190.
 PR 18-NOV-1997; 97GB-0024386.
 PR 27-NOV-1997; 97GB-0025158.
 PR 10-DEC-1997; 97GB-0026147.
 PR 14-JAN-1998; 98GB-0000759.
 XX
 PA (CHIR-) CHIRON SPA.
 XX
 PI Grandi G, Masignani V, Pizsa M, Rappuoli R, Scarlato V;
 XX WPI; 1999-327407/27.
 DR P-PSDB; AAY38727.
 XX
 PT Proteins from *Neisseria meningitidis* and *N. gonorrhoeae* useful for
 PI diagnosis, treatment and prevention of infection
 XX
 PS Claim 9; Page 273; 524pp; English.
 XX
 CC Nucleotide sequences AA211972-212358 represent open reading frames
 CC (ORFs) of *Neisseria meningitidis* and *N. gonorrhoeae* which encode
 CC antigenic proteins (see AAY38499-Y38944). The antigenic proteins, their
 CC fragments, their nucleic acids and antibodies are used for diagnosis,
 CC prevention (as vaccines) or treatment of *Neisseria* infections,
 CC such as meningitis, septicaemia and gonorrhoea. Both organisms
 CC are closely related. Fragments of the nucleic acids are useful
 CC as hybridisation probes and antisense reagents.
 XX
 SQ Sequence 381 BP; 127 A; 54 C; 108 G; 90 T; 2 other;

Query Match 17.1%; Score 322.4; DB 20; Length 381;
 Best Local Similarity 99.1%; Pred. No. 1.4e-88;
 Matches 334; Conservative 0; Mismatches 2; Indels 1; Gaps 1;
 QY 1330 atcggggggcggtatccttaagcgtcgtgtgtgtatgcgaacccgaatggaggt 1379
 DB 45 atcggggggcggtatccttaagcgtcgtgtgtgtatgcgaacccgaatggaggt 104
 QY 1380 tgcgtggaagcttaataatgcacacgtgcgaggtggagaaaatgttcsgaaac 1439
 DB 105 tgcgtggaagcttaataatgcacacgtgcgaggtggagaaaatgttcsgaaac 164
 QY 1440 gagaagaaggagtcagatcagtttaaaagccatcgcaacgagatggaaaataa 1499
 DB 165 gagaagaaggagtcagatcagtttaaaagccatcgcaacgagatggaaaataa 224
 QY 1500 aacagggttagatttaattcatctttatagtggtgcgtatcataaagaagcacagtaac 1559
 DB 225 aacagggttagatttaattcatctttatagtggtgcgtatcataaagaagcacagtaac 284
 QY 1560 aggaaggcatagcttaacccgtgtgtatgcgtgggtgatcaacaacccctggcaactga 1619
 DB 285 aggaaggcatagcttaacccgtgtgtatgcgtgggtgatcaacaacccctggcaactga 344
 QY 1620 taacatggggt-ttatcaagcagatggaaataa 1655
 DB 345 taacatggggttatcaagcagatggaaataa 381
 RESULT 30
 AA254260
 ID AA254260 standard; DNA; 1731 BP.
 AC AA254260;
 XX
 DT 21-MAR-2000 (first entry)
 XX
 DE *Neisseria gonorrhoeae* ORF 730 partial DNA sequence SEQ ID NO:2469.
 XX
 KW *Neisseria meningitidis*; *Neisseria gonorrhoeae*; antigen; vaccine;
 antigenic; diagnosis; immunogenic; infection; meningitis; septicaemia;

KW antibacterial; gene therapy; ds.
 XX
 OS *Neisseria gonorrhoeae*.
 XX
 PN W0957280-A2.
 XX
 PD 11-NOV-1999.
 XX
 PE 30-APR-1999; 99MO-US09346.
 XX
 PR 01-MAY-1998; 98US-0083758.
 PR 31-JUL-1998; 98US-0094869.
 PR 02-SEP-1998; 98US-0098994.
 PR 02-SEP-1998; 98US-0099062.
 PR 09-OCT-1998; 98US-0103749.
 PR 09-OCT-1998; 98US-0103794.
 PR 09-OCT-1998; 98US-0103796.
 PR 25-FEB-1999; 99US-0121528.
 XX
 PA (CHIR-) CHIRON CORP.
 XX
 PI (GENO-) INST GENOMIC RES.
 XX
 PI Fraser C, Galeotti C, Grandi G, Hickey E, Masignani V, Mora M;
 PI Petersen J, Pizsa M, Rappuoli R, Ratti G, Scarlato E, Scarselli M;
 PI Tettelin H, Venter JC;
 XX
 DR WPI; 2000-062150/05.
 DR P-PSDB; AAY75498.
 PT Novel *Neisseria* polypeptides predicted to be useful antigens for
 PT vaccines and diagnostics
 XX
 PS Claim 7; Page 1181; 1453pp; English.
 XX
 CC AA253015 to AA254536, AA254577 to AA254615, and AAY74253 to AAY75941
 CC represent novel *Neisseria meningitidis* and *N. gonorrhoeae* polynucleotides
 CC and polypeptides. AA254537 to AA254576 and AA254616 to AA25473 represent
 CC PCR primers used in the exemplification of the present invention. The
 CC polypeptides, the polynucleotides, antibodies and compositions of
 CC the invention can be used as vaccines, as diagnostic reagents, and as
 CC immunogenic compositions. The polypeptides can be used in the
 CC manufacture of medicaments for treating or preventing infection due to
 CC *Neisseria* bacteria (e.g. meningitis and septicaemia), to detect the
 CC presence of *Neisseria* bacteria, or to raise antibodies. They may also
 CC be used to screen for agonists or antagonists, which may themselves
 CC have use as antibacterial agents. The polynucleotides of the invention
 CC may also be used in gene therapy protocols.
 XX
 SQ Sequence 1731 BP; 507 A; 521 C; 418 G; 285 T; 0 other;
 Query Match 15.4%; Score 290.4; DB 21; Length 1731;
 Best Local Similarity 57.7%; Pred. No. 2.4e-78;
 Matches 538; Conservative 0; Mismatches 392; Indels 3; Gaps 1;
 QY 35 ccactagcaggtgtgccttcgcatcagtcacacccctcagtttggaacagatccct 94
 DB 44 ccgtaagcggcggtgcacatcatacagcccgctcgcggcgacttggcgaagccgt 103
 QY 95 ttatccggcaggttcgcagatcgaacatcgaacccgaggaatacacactatcg 154
 DB 104 tcatlaccgataaacacacacagcagcactgaacccggcgcaatacacactctcg 163
 QY 155 gcaagc---aggggggagcttgcacnagcgaacggccatcggatgggaaacatacaaa 211
 DB 164 gcgaccgcgcgcgacagcgtttccgacgcacccgcaaaatacagtcacatccagactaa 223
 QY 212 gccatcagttggcgccacccatgatccaaacagcgccgcttgaaggaatatccggtaca 271
 DB 224 cccacccagatggcgaacactgctcaccacaaagcggcgaatcccaagcaatcttggttaca 283
 QY 272 ttgtcgccttttcgatacagggcacaatctcattcgccttcgcaacacatgctctcac 331

Db	284	ccgcctcgtttccggacacagcgagcaagaacacgccccttcgcgaacaacacgcgcgcg	343
Qy	332	attccgattctgaagaaagccggctagttccgtttacggattcaacgtttaccgcattcatt	391
Db	344	acagcgaagcgaagaagaagaagcagcttgacagcagctttacccgtgtacccggtcaact	403
Qy	392	ggagcggatagcaacacacattccgcgcagcagctatgacgaggccacagggcgcggtatc	451
Db	404	gggaagagcaacgaacatcatccgcgtagctacgacagggcccggaaggcggaattacc	463
Qy	452	ccgcctcccaaaagcgcgagggatataatacagcttaccagacataaaaggcgtgtcccaata	511
Db	464	ccaaactctacggcgacagcagcaatataccattacacgttcaacagcgcgaacagccgcga	523
Qy	512	tcgcgcttcaaaccttccggaacaaacccgcagacccggacagcagcttgcgcgaccttca	571
Db	524	tcaacttcaatccgacccgaaccccgagcctccgcgcaacgcatatccgaactaacatac	583
Qy	572	atgcgcgagctatgtctgacgcaagaagtaagcagcagatccaacgcgcgcacccgata	631
Db	584	accctcgagcaattctctccgaccgcgcgatgaagcgaacagaaaaatgttcgagcaac	643
Qy	632	gccccgagctcggaaagttcgggcaatgtccgcgcgaagccttcaacgcgcacgtcgcagat	691
Db	644	atgcgaagctcgaacgccttgaggcaacagcagcttgagattgtccaacgagcgttcgcgcg	703
Qy	692	tcaaaacatcatctcgcgcgagagaanaattgcgcgcagcagctgcggttcaagta	751
Db	704	cgctcaaaccccttattacgagcgcgaggcgaacgcttggacatagcagacatactgtta	763
Qy	752	taagcgaagctcaaacattgtctcatcagcagcgttggctgtctgtcttccacccga	811
Db	764	cgcgctatgcccatagaagaacgcgcgagctgcgaacatcgcgcccttaccgcgagga	823
Qy	812	agatggcgcgcatcaacgatttggcagataltgcgcgaactcaacagactatgcgcgag	871
Db	824	aattcgcgcgcatcgcgcgcttggcagcgcgcgcgcgcgttgaaaaaatacgcgcga	883
Qy	872	ccatccgcgattggcgatctccaacaccccaatgcccgcacagaagcatalagaagccgt	931
Db	884	ccgttgacocggtgatatacagaanaaccccaatgcccgcgaacgcgtcgaagccctgt	943
Qy	932	atactttagtcagcgcattcccatccaagga	964
Db	944	acgtccctgcgcttgcaccaagtcacaaaacctga	976
RESULT 31			
AAZ54261			
ID	AAZ54261 standard; DNA: 1404 BP.		
XX	AAZ54261:		
AC	21-MAR-2000 (first entry)		
DT	Neisseria meningitidis ORF 730 partial DNA sequence SEQ ID NO:2471.		
XX			
DE	Neisseria meningitidis; Neisseria gonorrhoeae; antigen; vaccine;		
KW	antigenic; diagnosis; immunogenic; infection; meningitis; septicaemia		
KW	antibacterial; gene therapy; ds.		
KW	Neisseria meningitidis.		
OS	Neisseria meningitidis.		
PN	W09957280-A2.		
XX	11-NOV-1999.		
PD	30-APR-1999; 99WO-0509346.		
PF			
XX	01-MAY-1998; 98US-0083758.		
PR	31-JUL-1998; 98US-0094869.		
PR	02-SEP-1998; 98US-0098994.		
RR	02-SEP-1998; 98US-0099062.		

	PA	(CHIR) CHIRON CORP.
	PA	(GENO-) INST GENOMIC RES.
xx	Pt	Fraser C, Galeotti C, Grandi G, Hickey E, Masignani V, Mora M;
PI	Pt	Petersen J, Pizsa M, Rappoli R, Ratcl G, Scalato E, Scarselli M;
Ft	Pt	Tetelin H, Venter JC;
PS	XX	-
XX	DR	WPI: 2000-062150/05.
CC	DR	p-PsDB; AAY75499.
CC	XX	Claim 7; Page 1181-1182; 1453pp; English.
XX	CC	AAZ53015 to AAZ54536, AAZ54577 to AAZ54615, and AAY74253 to AAY75941
CC	CC	represent novel Neisseria meningitidis and N.gonorrhoeae polynucleotides
CC	CC	and polypeptides. AAZ54537 to AAZ54576 and AAZ54616 to AAZ55473 represent
CC	CC	PCR primers used in the exemplification of the present invention. The
CC	CC	polypeptides, the polynucleotides, antibodies and compositions of
CC	CC	the invention can be used as vaccines, as diagnostic reagents, and as
CC	CC	immunogenic compositions. The polypeptides can be used in the
CC	CC	manufacture of medicaments for treating or preventing infection due to
CC	CC	Neisserial bacteria (e.g. meningitis and septicemia), to detect the
CC	CC	presence of Neisseria bacteria, or to raise antibodies. They may also
CC	CC	be used to screen for agonists or antagonists, which may themselves
CC	CC	have use as antibacterial agents. The polynucleotides of the invention
CC	CC	may also be used in gene therapy protocols.
XX	SQ	Sequence 1404 BP; 430 A; 397 C; 333 G; 244 T; 0 other;
Query Match	15.0%; Score 283.4; DB 21; Length 1404; Best Local Similarity 57.5%; Pred. No. 3,1e-76;	
Matches 528; Conservative 0; Mismatches 387; Indels 3; Gaps 1		
Dy	35	cctaactgacagtgtgccttcgcatgatcacagcgtccatattggcaaacgaatccct 94 Dd 44 ccgttagcgaggccgacctatacaagcccctcgcgcyggaattggcgaaaccgct 103
OY	95	ttaiccgacaggtttccgacgcgttcacgacttttgaaaacccgacggagaatatcacattgg 154 Db 104 tcatlaccgataaagccccaaagcgacactacaagaacccggcgaataataccaaccttcgg 163
OY	155	gcacatcagggggggg--ttgccnaagcgcaacggcgcatatcggatttggynaacaatacaa 211 Db 164 ggcagcccgcgagcgacttcctcgcaecgcgacggcaaaaaataacgctatccaagaactata 223
OY	212	gcatcagttggccacctgatgatccaacagcgcgccgttgaaggaataatcoggtaca 271 Db 224 cccaccagatgggcaacctgctatccaacagcgcaaatcatacaacygcaccaatcgctaac 283
OY	272	ttgiccgcttttcgcatcagcggaacaaatttcatttgcctttcgacaacaatgctccac 331 Db 284 acacccgctlltcggacaagacgaagaagaacacgcccccttcgacaaccaacgcgcgcg 343
OY	332	attccgattttcgacgaagccggtagtcccggtttgacggaatltaagccttatccgatalccat 391 Db 344 acagcgcgagcgagaagaaaaggaacagtgtgacgaagsgcttaccgtatccggttaact 403
OY	392	ggagcagatatacgaacacatccgcgcgacggtctatgaacggcgcaacagggcgcggtcatc 451 Db 404 gggaagagacacgaatacatcccgccgagtcttacgaacggcgcaagggcggaattaacc 463
OY	452	ccggtcccaagagcgaggagatatataagcttaccgaataaagggctttcccaataa 511 Db 464 ccaaaccttaagggcgacagagaaatatacctaatacgaatcaagcgacgacagcccgagta 523

Db	24115	ATGCCAATCTGACCGCTGGGGGACAGAGATGAGATTTATCAACGGGGCTGGCCGGGG	24056
QY	692	tcaaaaacatcatcgcgcgcgcaggaagaattgttcgcgcgaagcgcgtatgcaggtta	751
Db	24055	CGCTCAACCCCTTTATCAGCGGGGGGAGAGCCCTTGGGATATGCGCATCTGTACGAA	23966
QY	752	taacgcgaagctcaaacattgtctatgcacgcggttgggtctgtcttccacgaanaaa	811
Db	23995	CGCCGTAATGCGCATAGCAAAAGCGGCAATGCGCAATGCGCCCTTCCCGCGAAGGCA	23936
QY	812	agatgcgcgcatacgaatttgcagatatgcgcgaactcctaagaactatgcccgcagaa	871
Db	23935	AATTGCGCGTATCGGGGGCTTGGGCGAGGTGCGCGCTTTGAAAATAATTCGCGGAAG	23876
QY	872	ccatcgcgatttgggcagctccaaaaaccocaaatgcgcacaaagcatagaagccgtca	931
Db	23875	CCGTGACCGCGTGATGATACGAGAAAATCCCAATGCGCGGAAACGTCGAAGCGCTTCA	23816
QY	932	atatcttatatgcagacca	949
Db	23815	ACGTTGCCGACGACGCCA	23798

CC	Neisseria meningitidis B full length genome sequence and open reading frames are used to detect, treat and prevent Neisserial infections - Claim 7; Appendix A; 692pp; English.
XX	The present invention describes the full length genome of
XX	Neisseria meningitidis B (NMB). The sequences in AAF21544 and AAF21607
XX	to AAF21613 represent fragments of the NMB genomic sequence, as the
XX	sequence was too long to go in a record on its own it was split into 8
XX	sequences which overlap each other at the beginning and end of each
XX	sequence by 49980 bp (i.e. the last 49980 bp of AAF21544 is repeated at
XX	the beginning of AAF21607, the last 49980 bp of AAF21607 are repeated at
XX	the beginning of AAF21608, and so on). AAF21545 to AAF21588 encode the
XX	Neisseria proteins given in AAB58550 to AAB58593, and AAF21589 to
XX	AAB58594.
XX	(CHIR) CHIRON CORP.
XX	(GENO-) INST GENOMIC RES.
XX	Piazza M, Hickey E, Peterson J, Tettelin H, Venter JC, Masignani V,
XX	Galetti C, Mora M, Ratti G, Scarselli M, Scarlato V, Rappelli R;
XX	Frazer CM, Grandi G;
XX	WPI; 2000-647603/62.
XX	Neisseria meningitidis B full length genome sequence and open reading
XX	frames are used to detect, treat and prevent Neisserial infections -
XX	Claim 7; Appendix A; 692pp; English.
XX	The present invention describes the full length genome of
XX	Neisseria meningitidis B (NMB). The sequences in AAF21544 and AAF21607
XX	to AAF21613 represent fragments of the NMB genomic sequence, as the
XX	sequence was too long to go in a record on its own it was split into 8
XX	sequences which overlap each other at the beginning and end of each
XX	sequence by 49980 bp (i.e. the last 49980 bp of AAF21544 is repeated at
XX	the beginning of AAF21607, the last 49980 bp of AAF21607 are repeated at
XX	the beginning of AAF21608, and so on). AAF21545 to AAF21588 encode the
XX	Neisseria proteins given in AAB58550 to AAB58593, and AAF21589 to
XX	AAB58594.
XX	(CHIR) CHIRON CORP.
XX	(GENO-) INST GENOMIC RES.
XX	Piazza M, Hickey E, Peterson J, Tettelin H, Venter JC, Masignani V,
XX	Galetti C, Mora M, Ratti G, Scarselli M, Scarlato V, Rappelli R;
XX	Frazer CM, Grandi G;
XX	WPI; 2000-647603/62.
XX	Neisseria meningitidis B nucleotide sequence SEQ ID NO:108.
XX	Neisseria meningitidis; Neisseria gonorrhoeae; immunogenic vaccine;
XX	diagnosis; antigen; detection; infection; gene therapy; antibacterial;
XX	ds.
XX	Neisseria meningitidis.
XX	WO2000066791-A1.
XX	NOV-2000.
XX	MAR-2000; 2000MO-US05928.
XX	APR-1999; 99US-0132068.
XX	OCT-1999; 99MO-US23573.
XX	FEB-2000; 2000GB-0004695.
XX	(CHIR) CHIRON CORP.
XX	(GENO-) INST GENOMIC RES.
XX	Piazza M, Hickey E, Peterson J, Tettelin H, Venter JC, Masignani V,
XX	Galetti C, Mora M, Ratti G, Scarselli M, Scarlato V, Rappelli R;
XX	Frazer CM, Grandi G;
XX	WPI; 2000-647603/62.
XX	Neisseria meningitidis B full length genome sequence and open reading
XX	frames are used to detect, treat and prevent Neisserial infections -
XX	Claim 7; Appendix A; 692pp; English.
XX	The present invention describes the full length genome of
XX	Neisseria meningitidis B (NMB). The sequences in AAF21544 and AAF21607
XX	to AAF21613 represent fragments of the NMB genomic sequence, as the
XX	sequence was too long to go in a record on its own it was split into 8
XX	sequences which overlap each other at the beginning and end of each
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XX	the beginning of AAF21607, the last 49980 bp of AAF21607 are repeated at
XX	the beginning of AAF21608, and so on). AAF21545 to AAF21588 encode the
XX	Neisseria proteins given in AAB58550 to AAB58593, and AAF21589 to
XX	AAB58594.
XX	(CHIR) CHIRON CORP.
XX	(GENO-) INST GENOMIC RES.
XX	Piazza M, Hickey E, Peterson J, Tettelin H, Venter JC, Masignani V,
XX	Galetti C, Mora M, Ratti G, Scarselli M, Scarlato V, Rappelli R;
XX	Frazer CM, Grandi G;
XX	WPI; 2000-647603/62.
XX	Neisseria meningitidis B full length genome sequence and open reading
XX	frames are used to detect, treat and prevent Neisserial infections -
XX	Claim 7; Appendix A; 692pp; English.
XX	The present invention describes the full length genome of
XX	Neisseria meningitidis B (NMB). The sequences in AAF21544 and AAF21607
XX	to AAF21613 represent fragments of the NMB genomic sequence, as the
XX	sequence was too long to go in a record on its own it was split into 8
XX	sequences which overlap each other at the beginning and end of each
XX	sequence by 49980 bp (i.e. the last 49980 bp of AAF21544 is repeated at
XX	the beginning of AAF21607, the last 49980 bp of AAF21607 are repeated at
XX	the beginning of AAF21608, and so on). AAF21545 to AAF21588 encode the
XX	Neisseria proteins given in AAB58550 to AAB58593, and AAF21589 to
XX	AAB58594.
XX	(CHIR) CHIRON CORP.
XX	(GENO-) INST GENOMIC RES.
XX	Piazza M, Hickey E, Peterson J, Tettelin H, Venter JC, Masignani V,
XX	Galetti C, Mora M, Ratti G, Scarselli M, Scarlato V, Rappelli R;
XX	Frazer CM, Grandi G;
XX	WPI; 2000-647603/62.
XX	Neisseria meningitidis B full length genome sequence and open reading
XX	frames are used to detect, treat and prevent Neisserial infections -
XX	Claim 7; Appendix A; 692pp; English.
XX	The present invention describes the full length genome of
XX	Neisseria meningitidis B (NMB). The sequences in AAF21544 and AAF21607
XX	to AAF21613 represent fragments of the NMB genomic sequence, as the
XX	sequence was too long to go in a record on its own it was split into 8
XX	sequences which overlap each other at the beginning and end of each
XX	sequence by 49980 bp (i.e. the last 49980 bp of AAF21544 is repeated at
XX	the beginning of AAF21607, the last 49980 bp of AAF21607 are repeated at
XX	the beginning of AAF21608, and so on). AAF21545 to AAF21588 encode the
XX	Neisseria proteins given in AAB58550 to AAB58593, and AAF21589 to
XX	AAB58594.
XX	(CHIR) CHIRON CORP.
XX	(GENO-) INST GENOMIC RES.
XX	Piazza M, Hickey E, Peterson J, Tettelin H, Venter JC, Masignani V,
XX	Galetti C, Mora M, Ratti G, Scarselli M, Scarlato V, Rappelli R;
XX	Frazer CM, Grandi G;
XX	WPI; 2000-647603/62.
XX	Neisseria meningitidis B full length genome sequence and open reading
XX	frames are used to detect, treat and prevent Neisserial infections -
XX	Claim 7; Appendix A; 692pp; English.
XX	The present invention describes the full length genome of
XX	Neisseria meningitidis B (NMB). The sequences in AAF21544 and AAF21607
XX	to AAF21613 represent fragments of the NMB genomic sequence, as the
XX	sequence was too long to go in a record on its own it was split into 8
XX	sequences which overlap each other at the beginning and end of each
XX	sequence by 49980 bp (i.e. the last 49980 bp of AAF21544 is repeated at
XX	the beginning of AAF21607, the last 49980 bp of AAF21607 are repeated at

CC AAR2160 represent PCR primers which are used in the exemplification of
CC the present invention. The NMB genome and fragments from it have
CC antibacterial activity, and can be used in vaccines and gene therapy.
CC Neisseria nucleic acids, proteins and/or antibodies which binds to the
CC proteins can be used in compositions for treating or preventing infection
CC due to Neisserial bacteria or as a diagnostic reagent for detecting the
CC presence of Neisserial bacteria or of antibodies raised to Neisserial
CC bacteria. Computers, computer memory, computer storage medium or computer
CC databases can be used in a search to identify open reading frames (ORFs)
CC or coding sequences within the NMB genome. The DNA sequences provide
CC further opportunities to find antigenic or immunogenic proteins which are
CC more effective in vaccines than the outer membrane proteins currently
CC used.
CC
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CC Sequence 349980 BP; 84410 A; 84863 C; 94187 G; 86520 T; 0 other;
CC
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Query Match	15.0%;	Score 283.4;	DB 21;	Length 349980;
Best Local Similarity	57.5%;	Pred. No. 8.5e-75;		
Matches 528;	Conservative	0;	Mismatches 387;	Indels 3; Gaps 1.

Qy 35 ccattactgagcagtgtccctgcgatcatgacacgccttcagatlttgcaaacgataccct 94
||| ||| | | | | | | | | | |
Db 77278 cCGTAGCCGGCGGCACATCATACAGCCCCCTTCGCGCGACTTGGCGCAGACCCT 77219

95 ttatccqcaqgttctcqaaccqtcaqcatltcqaaccqcaqqaataaccactattc 154

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DB // 218 TCAATTACCGAATAACGCCCAACGGCAGCAGTACGAAACCCGGCGGCAAAATACCACTCTTCG // 1

QY 155 gcagcaggggagc--ttgccnagcgcaacggccatatcgatltggaaacatacaaa 211

Db 77158 GCAGCCCGCGGCAGCGTTTCGACCGCACCGCAAAATCAACGTCATCCAGACTATA 770

[illegible]

212 gccatcagctgggccaacctgattgataccaacagggcggcttgaaaggaaatactcggtctaca z/1

Db 77098 CCCACCAGATGGGCAACCTGCTCATCCAACAGGCAACATCAACGGCACCAATCGGCTACC 770

0v 272 ttatccqcttttcqatcacqgcacaaattccattcacccttcgaacaaacataqctcac 331

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D5 77038 ACACCCGCTTTTCGACACGACACGAGAACACGCCCCCTTCGACAAACACGCGCCG /69

332 attcgattctgacgaagccgtagtcccggttgacgattcagcccttacgcattcatt 391

Db 76978 ACAGCGAGCGAAGAAAAGGCAACGTTGACGAAGGCTTACCGTATACCGGCTCACT 769

392 ggacggtacgaacacccatcccgcgcgctatgtacgcggccacagggcgcgcgtatc 451

Db 76918 GGAAGGACACGACATCATCCCGCGATGCTACGACGGCCCGAAGGGCGCAATTACC 768

452 ccaactcccaaaagcagcaaatatatacaactacgaacataaaaagacattaccccaaatata 511

[illegible]

Db 76858 CCAACCTACGGGCGCAGACGAATACACCTATCAGCTCAACGGCACGCCCCGAGTA 767

512 tcgcctcaactgacgcgacaaccgcagcaccgcgacaaacgcttgcgcgacggttcacaca 571

Db 76798 TCAACTCAATCGACCGACACCGGACGATCCGGCAAGCATATCGGACATTACAGCA 767

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QY 572 atgccgycgtatgtgacgcaaggtagcgcgatccaacgcgataca 631

Db 76738 ACCTCGGCAGCAATTCTCTCCGACCGCGCGGATGAAGCCACAGAAATGTTGAGCACA 766

632 acccccccacatcccccaaaccttcaaaccacactaccagatatcga 691

[illegible]

Db 76678 ATGCCAAGCTCGACCGCTGGGGCAACAGCATGGAGTTATCAACGGCGTCGCCGCGGCG 766

QY 692 tcaaaacatcatcgcgcgaggaattgtcgcgcagcgatgccgtgcaggtta 751

76618 CCGTCAACCCCTTTATCAGCCGCCGCGAAGCCCTTCGGCATTAAGCCGCACATTACTGTACCGGA 765

[illegible]

752 taagcgaagctcaaatgtgtcatgcacgcttggtctgcttccaccgaaaca 811

Db 76558 CGCGTATGCCATAGACAAAGCCGCAATGCCACATCGCCCCCTTGCCCCGCCGAGGCA 7664

QY 812 agtltggcgcgcattcaacgatttggcagatattgcgcaactcaagactatgcgcgcag 871
Db 76498 AATTCCCGCTTACTCGGCGGCTTGGGGCAGCGTGCGGCGCTTTGAAAAAATAATCCGCGGAAG 764399
QY 872 ccattccgcgattgggcagatcccaaaccccaatgctgcgcacaagcatagaagccgttaaga 931
Db 76438 CCGTTACCGCGTGAGATACAGGAAAAATCCCAATGCGCGGAACCGTGAAGCCGCTTCA 763799
QY 932 atattcttattgacagca 949
Db 76378 ACCTTGCACGACAGCA 76361

Db 245 aacggacaggttggaagtggtatcggtatgaaccacatttcaggacacggacag 304
QY 299 aattccattcgcccttcacacacatcgctacattcgcattctgaagacggtatgc 358
PS 305 aagtaacacagcgttcgtatcatatcatatcaaaagacattcgcattcagcgcgag 364
Db 359 ccgttgcagatcgaacgttcacgcatcatcttggaacgagatagacacacacccgcgc 418
QY 365 tagaagcggtttacccgtttacacacttcacgacagggctcggaataatcatccgcag 424
QY 419 acggtatgaagcgccacagggcggtatcccgctcccaaaagcgcgaggtatata 478
Db 425 acggtatgaagcgccacagggcggtatcccggaaccacacagggcgaggtatata 484
QY 479 acagctacacataaagg 497
Db 485 acagctacacatacaagg 503

RESULT 37

AAT70386 standard; DNA; 3287 BP.

AAT70386;

08-DEC-1997 (first entry)

Neisseria adhesion proteins.

Neisseria gonorrhoea; adhesion; lipoprotein; OrfA; OrfI; OrfB; ss.

Neisseria gonorrhoeae.

Key location/Qualifiers

-35_signal

-10_signal

RBS

CDS

-35_signal

-10_signal

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PT Nucleic acids encoding Neisseria adhesion proteins - for therapeutic
PS and diagnostic use
PS Claim 1; Page 11-13; 20pp; German.
CC OrfA and OrfB in complexes with the protein PilC are capable of
CC adhering to human cells.
CC Products obtained from the DNA are useful in medicaments,
CC diagnostic compsns. and vaccines, esp. for treatment of
CC Neisseria gonorrhoea and N. meningitidis infections.
SQ Sequence 3287 BP; 1016 A; 741 C; 752 G; 778 T; 0 other;

Query Match 6.3%; Score 119.8; DB 18; Length 3287;

Best Local Similarity 66.4%; Pred. No. 1e-25;

Matches 172; Conservative 0; Mismatches 87; Indels 0; Gaps 0;

QY 239 aacagcgcggttggaaggaatcgcgtacattgctcgcttccgatacagggacac 298

Db 1829 aacggacaggggttggaagcatatcggtatgaaccacatttcaggacacggacag 1888

QY 299 aattccattcgcccttcgaacacatgcctcaatcgcattctgcagagccggtatgc 358

Db 1889 aagtaacacagcgttcgtatcatatcatatcaaaagacattcgaagcgcgagcg 1948

QY 359 ccgttgcagatcgaacgttcacgcatcatcttggaacgagatagacacacacccgcgc 418

Db 1949 tagaagcggtttacccgtttacacacttcacgacagggctcggaataatcatccgcag 2008

QY 419 acggtatgaagcgccacagggcggtatcccgctcccaaaagcgcgaggtatata 478

Db 2009 acggtatgaagcgccacagggcggtatcccggaaccacacagggcgaggtatata 2068

QY 479 acagctacacataaagg 497

Db 2069 acagctacacatacaagg 2087

RESULT 38

AAZ53471 standard; DNA; 1155 BP.

AAZ53471;

21-MAR-2000 (first entry)

Neisseria meningitidis ORF 238 partial DNA sequence SEQ ID NO:891.

Neisseria meningitidis; Neisseria gonorrhoeae; antigen; vaccine;

KW antigenic; diagnosis; immunogenic; infection; meningitis; septicaemia;

KW antibacterial; gene therapy; ds.

Neisseria meningitidis.

WO9957280-A2.

11-NOV-1999.

30-APR-1999; 99WO-US09346.

01-MAY-1998; 98US-0083758.

31-JUL-1998; 98US-0094869.

02-SEP-1998; 98US-0098994.

02-SEP-1998; 98US-0099062.

09-OCT-1998; 98US-0103749.

09-OCT-1998; 98US-0103794.

09-OCT-1998; 98US-0103796.

25-FEB-1999; 99US-0121528.

(CHIR) CHIRON CORP.

(GENO-) INST GENOMIC RES.

OY 479 acagctacgacataaaggcgttgcccaata 511
 ||||| | | ||||| | | ||| |
 Db 485 acagctattatgtcaagaagactcaacaaaa 517

RESULT 42

AAAF1473
 ID AAAF1473 standard; DNA; 92934 BP.

AC AAAF1473;

DT 04-DEC-2000 (first entry)

DE N. meningitidis partial DNA sequence gnm_21 SEQ ID NO:21.

KM Neisseria meningitidis; Neisseria gonorrhoeae; genome; immunogenic;
 antigen; vaccine; diagnosis; infection; antibacterial; identification;
 KM Meningococcus B; MenB; ds.

OS Neisseria meningitidis.

PN WO200022430-A2.

PD 20-APR-2000.

PF 08-OCT-1999; 99WO-US23573.

PR 09-OCT-1998; 98US-0103794.

PR 30-APR-1999; 99US-0132068.

PA (CHIR) CHIRON CORP.

PI Frazer CM, Hickey E, Peterson J, Tettelin H, Venter JC;

PI Masignani V, Galeotti C, Mora M, Ratti G, Scarselli M, Scarlato V;

PI Rappuoli R, Pizza M;

DR WPI: 2000-318079/27.

PT Isolated nucleotide sequences of Neisseria meningitidis which can be
 used in the diagnosis and treatment of N. meningitidis infection and
 other Neisserial infections, for example, N.gonorrhoea -

PT Claim 7; Page 471-498; 1760pp; English.

PS The present invention describes methods of obtaining immunogenic
 CC proteins from Neisseria genomic sequences. AAAF1453 to AAAF2414
 CC represent specifically claimed Neisseria meningitidis genomic DNA
 CC sequences; AAAF1260 to AAAF1303 and AA825620 to AA825665 represent
 CC Neisseria DNA sequences and their corresponding proteins; AAAF1254 to
 CC AA81259 and AAAF1304 to AAAF1321 represent PCR primers used in the
 CC isolation of Neisseria meningitidis DNA sequences; and AAAF1322 to
 CC AA81452 represent Neisseria meningitidis MenB polynucleotide ORF
 CC sequences, which are all used in the exemplification of the present
 CC invention. The nucleic acid sequences, protein sequences, and antibodies
 CC against them, can be used in the manufacture of a composition. The
 CC composition can be used as a medicament (or in the manufacture of a
 CC medicament) for treating, preventing or diagnosing infection due to
 CC Neisserial bacteria. For example, some of the identified proteins could
 CC be components of vaccines against Meningococcus B; against all serotypes;
 CC and/or against all pathogenic Neisseriae. Identification of sequences
 CC from the bacterium will also facilitate production of biological probes,
 CC particularly organism-specific probes. Attempts to make efficacious
 CC Meningococcus B vaccines have failed mainly due to antigen tolerance.
 CC Multivalent vaccines have also been tried but none have successfully
 CC overcome antigenic variability. The provision of further, complete
 CC sequences may provide an opportunity to identify secreted or surface
 CC exposed proteins that may be presumed targets for the immune system and
 CC which are not antigenically variable or at least more conserved than
 CC other more variable regions.

XX Sequence 92934 BP; 24051 A; 24249 C; 21902 G; 22730 T; 2 other;

Query Match 5.6%; Score 105; DB 21; Length 92934;
 Best Local Similarity 61.5%; Pred. No. 2,8e-20;
 Matches 168; Conservative 0; Mismatches 105; Indels 0; Gaps 0;

OY 239 aacagcgccgcttgaagaataatcgctacatgtcgcgtttccgatacagcgacaa 298

Db 19272 aacgacacaggttgaaggtgtatcggtatgaacacattttgaagcgacgacatg 19331

OY 299 aattccattccgcttcgaacacatgcctacatccgattctgaggaagcggtatgc 358

Db 19332 aagtaacacagtcgcttcgatacatalgatcaaaagacattctgattcagcgcggtg 19391

OY 359 ccgttacgagattcaagcattaccgcatcatgtggacgatacgaacacatccgcgcg 418

Db 19392 tagacgcggttttactgtttaccacttcatcgaacaggttcggaatccatccgcgag 19451

OY 419 acggtatgaagggccacagggcgcggtatccgcgtcccaaggcgaggtatata 478

Db 19452 atgatatgacggcgccgaagcagcgtattatccgcccccgagaggaaggtatata 19511

OY 479 acagctacgacataaaggcgttgcccaata 511

Db 19512 acagctattatgtcaagaagactcaacaaaa 19544

RESULT 43

AAAF21613
 ID AAAF21613 standard; DNA; 172325 BP.

AC AAAF21613;

DT 13-MAR-2001 (first entry)

DE Neisseria meningitidis B nucleotide sequence SEQ ID NO:114.

KM Neisseria meningitidis; Neisseria gonorrhoeae; immunogenic; vaccine;
 diagnosis; antigen; detection; infection; gene therapy; antibacterial;
 ds.

OS Neisseria meningitidis.

PN WO200066791-A1.

PD 09-NOV-2000.

PF 08-MAR-2000; 2000WO-US05928.

PR 30-APR-1999; 99US-0132068.

PR 08-OCT-1999; 99WO-US23573.

PR 28-FEB-2000; 2000GB-0004695.

PA (CHIR) CHIRON CORP.

PA (GENO-) INST GENOMIC RES.

PI Pizza M, Hickey E, Peterson J, Tettelin H, Venter JC, Masignani V;

PI Galeotti C, Mora M, Ratti G, Scarselli M, Scarlato V, Rappuoli R;

PI Frazer CM, Grandi G;

DR WPI: 2000-647603/62.

PT Neisseria meningitidis B full length genome sequence and open reading
 frames are used to detect, treat and prevent Neisserial infections -

PT Claim 7; Appendix A: 692pp; English.

PS The present invention describes the full length genome of
 CC Neisseria meningitidis B (NMB). The sequences in AAAF21544 and AAAF21607
 CC to AAAF21613 represent fragments of the NMB genomic sequence, as the
 CC sequence was too long to go in a record on its own it was split into 8
 CC sequences which overlap each other at the beginning and end of each
 CC sequence by 49980 bp (i.e. the last 49980 bp of AAAF21544 is repeated at
 CC the beginning of AAAF21607, the last 49980 bp of AAAF21607 are repeated at

CC the beginning of AAF21608, and so on). AAF21545 to AAF21588 encode the
CC Neisseria proteins given in AAB58550 to AAB58593, and AAF21589 to
CC AAF21606 represent PCR primers which are used in the exemplification of
CC the present invention. The NMB genome and fragments from it have
CC antibacterial activity, and can be used in vaccines and gene therapy.
CC Neisseria nucleic acids, proteins and/or antibodies which binds to the
CC proteins can be used in compositions for treating or preventing infection
CC due to Neisseria bacteria or as a diagnostic reagent for detecting the
CC presence of Neisseria bacteria or of antibodies raised to Neisseria
CC bacteria. Computers, computer memory, computer storage medium or computer
CC databases can be used in a search to identify open reading frames (ORFs)
CC or coding sequences within the NMB genome. The DNA sequences provide
CC further opportunities to find antigenic or immunogenic proteins which are
CC more effective in vaccines than the outer membrane proteins currently
CC used.

SO Sequence 172325 BP; 43072 A; 47583 C; 41465 G; 40205 T; 0 other;

Query Match 5.6%; Score 105; DB 21; Length 172325;
Best Local Similarity 61.5%; Pred. No. 4e-20;
Matches 168; Conservative 0; Mismatches 105; Indels 0; Gaps 0;

QY 239 aacagggcgccgttaagaataatcgctacattgctccgtttccgatacgggacaa 298
DB 122939 aacggacaggggttgaaagtgttactggttaagaacccatttccaggacagacatg 122998
QY 299 aattccatcgccttcgacacacatcgctacattcgattctagcaagccgtagtc 358
DB 122999 aagtaacacgctcgttcgatactatcattcaaaagaacttcgattcagcgcggtg 123058
QY 359 ccgttgaagattcagccttaccgcatccatttggacgatacgaacacatcccgccg 418
DB 123059 tagaagcggtttactgtttccaaactcagacagggctcgaaatccatcccgagg 123118
QY 419 acggtatgaagggcgacagacgagctatcccgctcccaagggcgagggatataat 478
DB 123119 atgataatgaagggcgacagacgagctatcccgcccgagggagagggatataat 123178
QY 479 acagctacgacataaaggcgttgcacaaata 511
DB 123179 acagctatattgtcaagaagacttcaacaaata 123211

RESULT 44

AAZ12043
ID AAZ12043 standard; DNA; 375 BP.

AC AAZ12043;

DT 08-OCT-1999 (first entry)

DE Neisseria meningitidis partial ORF29 sequence.

KW Neisseria meningitidis; Neisseria gonorrhoeae; antigen; vaccine;

KW treatment; Neisseria infection; meningitis; septicaemia; gonorrhea; ss.

OS Neisseria meningitidis.

PN WO9924578-A2.

PD 20-MAY-1999.

PF 09-OCT-1998; 98WO-IB01665.

PR 01-SEP-1998; 98GB-0019016.

PR 06-NOV-1997; 97GB-0023516.

PR 14-NOV-1997; 97GB-0024190.

PR 18-NOV-1997; 97GB-0024386.

PR 27-NOV-1997; 97GB-0025158.

PR 10-DEC-1997; 97GB-0026147.

PR 14-JAN-1998; 98GB-0000759.

PA (CHIR-) CHIRON SPA.

PI Grandi G, Maignani V, Pizzo M, Rappuoli R, Scarlato V;

DR WPT; 1999-327407/27.

DR P-PSDB; AAY38580.

PT Proteins from Neisseria meningitidis and N. gonorrhoeae useful for
PT diagnosis, treatment and prevention of infection

PS Claim 9; Page 143; 524pp; English.

CC Nucleotide sequences AAZ11972-212358 represent open reading frames
CC (ORFs) of Neisseria meningitidis and N. gonorrhoeae which encode
CC antigenic proteins (see AAY38499-Y38944). The antigenic proteins, their
CC fragments, their nucleic acids and antibodies are used for diagnosis,
CC prevention (as vaccines) or treatment of Neisseria infections,
CC such as meningitis, septicaemia and gonorrhea. Both organisms
CC are closely related. Fragments of the nucleic acids are useful
CC as hybridisation probes and antisense reagents.

SO Sequence 375 BP; 105 A; 89 C; 90 G; 90 T; 1 other;

Query Match 5.1%; Score 96; DB 20; Length 375;
Best Local Similarity 59.3%; Pred. No. 5.9e-19;
Matches 162; Conservative 0; Mismatches 111; Indels 0; Gaps 0;

QY 239 aacagggcgccgttgaagaataatcgctacattgctccgtttccgatacgggacaa 298
DB 29 aacggacaggggttgaaagtgttactggttaagaacccatttccaggacagacatg 88
QY 299 aattccatcgccttcgacacacatcgctacattcgattctagcaagccgtagtc 358
DB 89 aagtaacacgctcgttcgatactatcattcaaaagaacttcgattcagcgcggtg 148
QY 359 ccgttgaagattcagccttaccgcatccatttggacgatacgaacacatcccgccg 418
DB 149 tagacggcggtttactgtttccaaactcagacagggctcgaaatccatcccgagg 208
QY 419 acggtatgaagggcgacagacgagctatcccgctcccaagggcgagggatataat 478
DB 209 atgaataatgaagggcgacagacgagctatcccgcccgagggagagggatataat 268
QY 479 acagctacgacataaaggcgttgcacaaata 511
DB 269 acagctatattgtcaagaagacttcaacaaata 301

RESULT 45

AAA81340
ID AAA81340 standard; DNA; 375 BP.

AC AAA81340;

DT 04-DEC-2000 (first entry)

DE N. meningitidis MenB polynucleotide sequence ORF number 19.

KW Neisseria meningitidis; Neisseria gonorrhoeae; genome; immunogenic;

KW antigen; vaccine; diagnosis; infection; antibacterial; identification;

KW Meningococcus B; MenB; ds.

OS Neisseria meningitidis.

PN WO200022430-A2.

PD 20-APR-2000.

PF 08-OCT-1999; 99WO-US23573.

PR 09-OCT-1998; 98US-0103794.

PR 30-APR-1999; 99US-0132068.

